

The SHIPPING WORLD

AND SHIPBUILDING & MARINE ENGINEERING NEWS



VOL. CXXIV No. 3018

WEDNESDAY, MAY 2 1951

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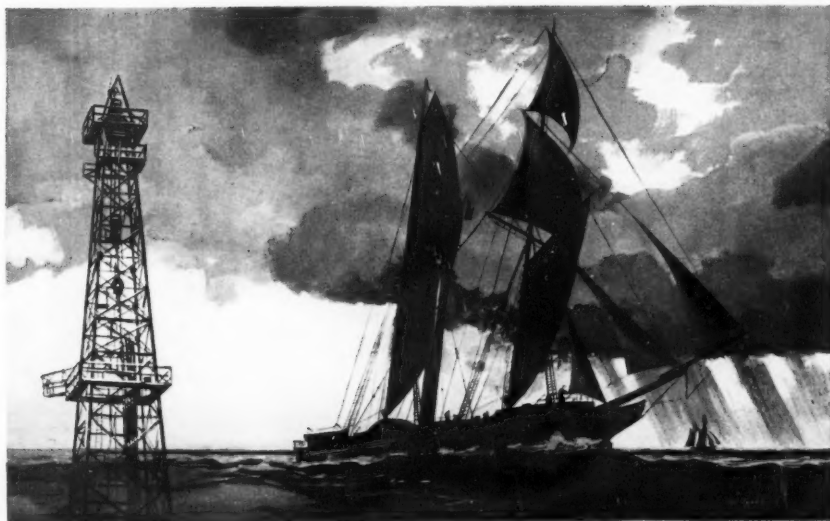
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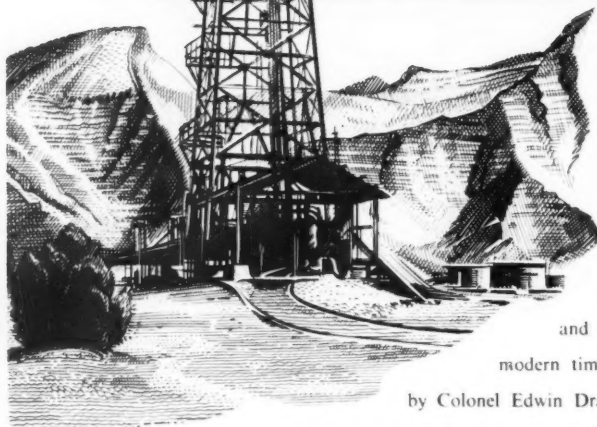
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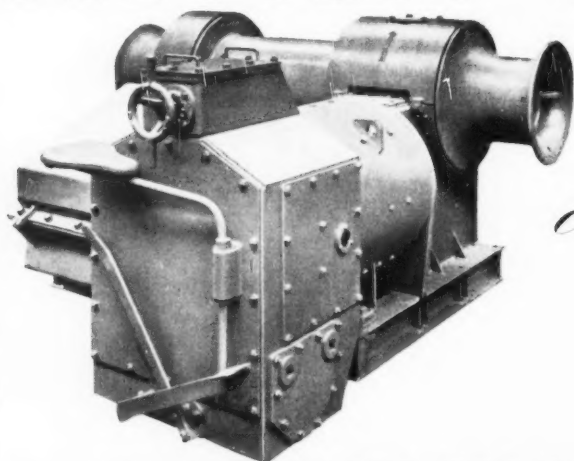
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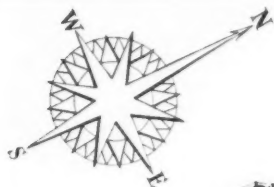
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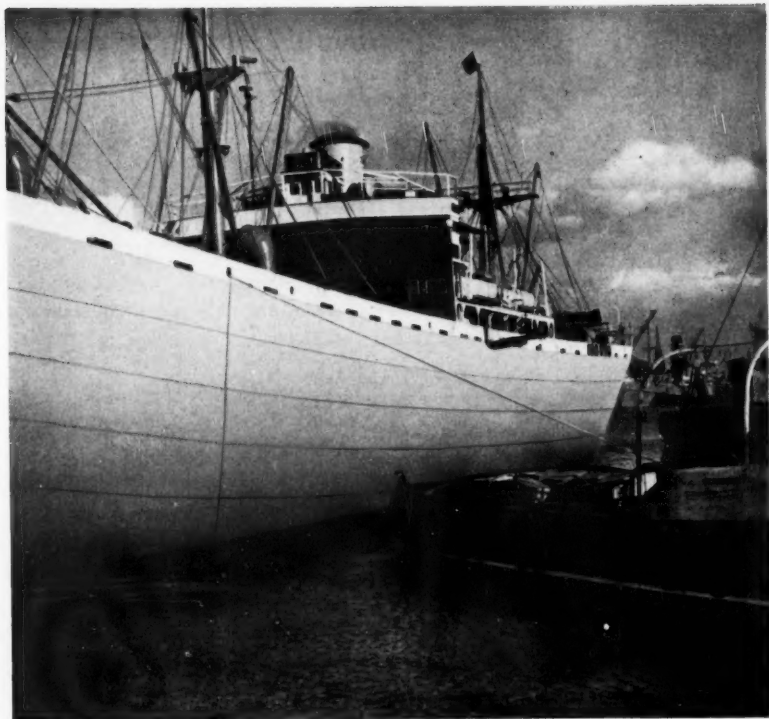
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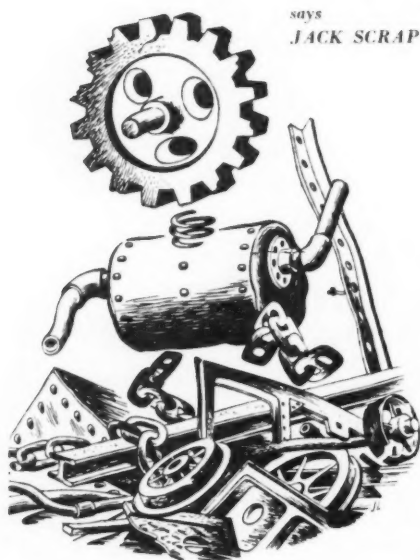
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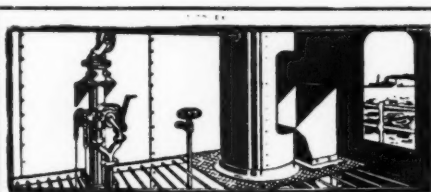
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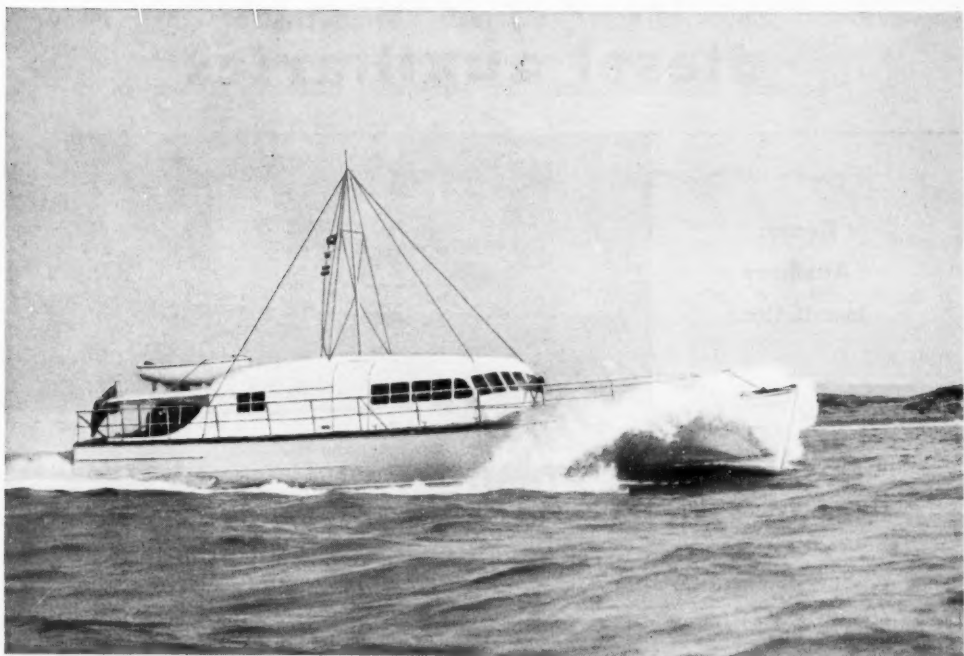
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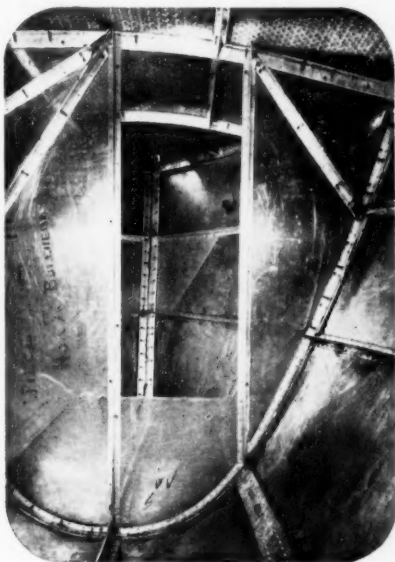
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Aluminium for New-Type Survey Launch



(Above) The "Ain-Al-Bahr" built by Messrs. Grimston Astor Ltd., for the Pakistan Government. (Below) Looking forward during building.

Built for surveying shallow estuaries in East Pakistan, the all-aluminium "Ain-Al-Bahr", a 60 ft. twin-screw survey launch, has a displacement of 11 tons and a draught of only 2 ft. 9 in. On a power of less than 130 b.h.p. the vessel exceeded 13 knots on her trials, and has an endurance of 1,500 miles. Apart from effecting remarkable operating economies and reducing the draught to a minimum, aluminium requires little maintenance even in the tropics and is unaffected by teredo worm. The aluminium plate, sheet and extruded sections were supplied by The British Aluminium Company who co-operated with the builders on certain technical aspects.



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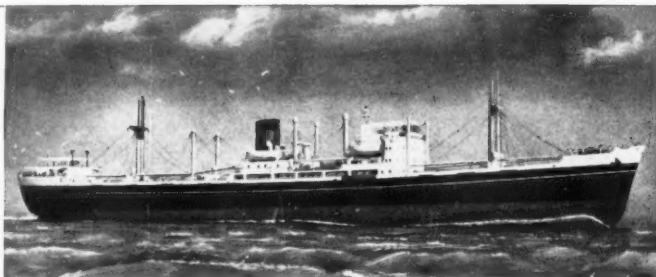
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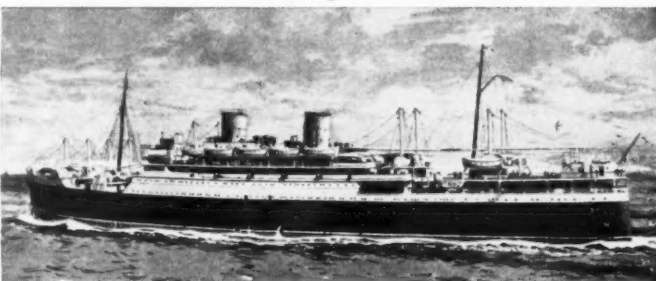
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Depending for auxiliary power on 'English Electric' diesel installations these three new ships are representative of the current trend. Rangitata's six 6K 330 h.p. 200 kW D.C. sets are the main source of the ship's electrical supplies. Penrith Castle and Dunedin Star each employ three 8K 440 h.p. 250 kW sets for lighting, cargo handling and other power requirements.

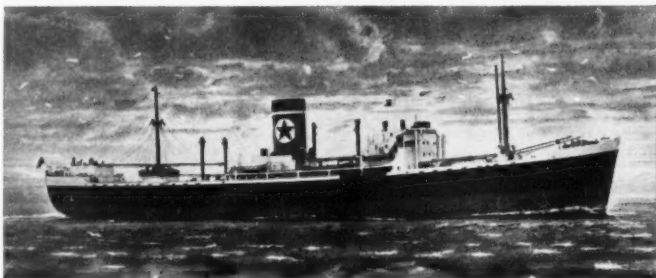
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Chairman and Managing Director of The Shipping World, Ltd.:—SIR ARCHIBALD HURD

Editor :—PETER DUFF

Managing Editor :—RONALD KENDALL, M.C.M.S., A.M.I.N.A.

Advertisement Manager :—M. B. FIELD

Annual Subscription 70s.

Head Offices : 1, Arundel Street, London, W.C.2. (Temple Bar 2523)

Telegrams : "Shipping World," London

Northern District Manager : W. S. Wilson, M.I.E.E., 27 Exchange

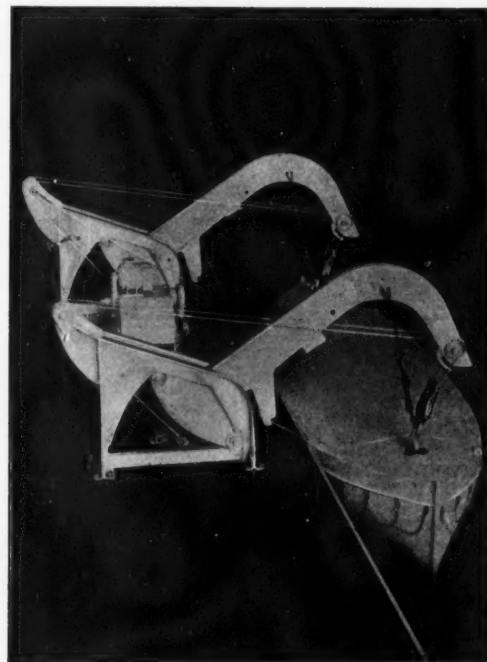
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THE SHIPPING WORLD

RISING COSTS AND INFLATIONARY TAXATION

LAST YEAR, in his statement to stockholder-members of the Cunard Steam-Ship Co., Ltd., Mr. F. A. Bates said "there is a grave danger in the present situation, where annual trading is assessed to produce taxable profit before adequate deduction is made in our accounts for replacement." Inflation or devaluation, he commented, increased the danger. It is now apparent, from his statement which is reproduced in full in this issue of *THE SHIPPING WORLD*, that the dangers which Mr. Bates foreshadowed last year have intensified. Rising prices are the historic result of devaluation, as everyone in these islands is now beginning painfully to realise; and as far as shipping companies are concerned, it is now clear that devaluation has introduced a new factor which greatly affects the replacement future, one of the most vital problems of the industry. As Mr. Bates puts it, pre-devaluation money expresses one part of the company's accounts and post-devaluation money the other. The Cunard directors continue to make additional reserves to supplement the depreciation, but the tax computation has not yet been revised to meet the new replacement factors. In the Cunard consolidated accounts now presented, depreciation stands at just over £2,000,000 but, as Mr. Bates rightly warns, this figure so charged is no better than notional, being based on the original but now unrealistic first cost. This notional figure relates to a fleet the current replacement cost of which is estimated to be about £120,000,000. The larger ships of the Cunard fleet, such as the *Queen Mary* and *Queen Elizabeth*, take some five years to plan and build, and it is evident that the company must soon grapple with the problem of replacing the elder of these vessels, for she is now 15 years old, and 20 to 25 years is regarded as the normal useful life of such a ship, unless unusual circumstances prolong it.

The cost of replacing a prewar vessel is now about three times its original cost, and before the historic results of devaluation have had their full effect that replacement cost is likely to be even higher. The money must be found out of earnings, but here the Exchequer steps in with its inflationary taxation

policy, to such an extent, in fact, that the Cunard Company is apparently becoming involved in the law of diminishing returns. The operating surplus for 1950, for example, which is shown at £10,780,750, represents an increase of nearly £2,000,000 over the previous year, but taxation absorbs nearly £5,000,000, so that the increased operating surplus brings no benefit to the company and even adds to the weight of taxation on its back. The increased surplus and greater weight of tax have been achieved at the cost of an immense amount of energy and enthusiastic teamwork, such as is the tradition of the Cunard staffs ashore and afloat, but the sole result is to leave the company no better off in its ability to finance replacement. As Mr. Bates remarks, "whip and weight-cloth are the incentives offered to us, and without even the proverbial carrot for the donkey."

The amounts paid for taxation for the last four years of the Cunard consolidated accounts total to the fantastic figure of almost £15,000,000. That is far too large a sum to be extracted from a shipping company before making realistic provision for replacing worn-out tonnage. Ships have a comparatively short life, and they do not always have a profitable one. Last year, as Mr. Bates has warned, might well prove to have been a peak year, and judging from the results of the first quarter of this year the operating surplus in 1951 may not be as high in 1950. If this turns out to be the case, the problem of finding money for replacement is even more serious, and the need grows as time goes on; yet the level of taxation gets higher and higher, and there is an all too real danger that the Exchequer will find itself bleeding the shipping industry white. Then the nation will find itself, as many shipowners have warned, unable to meet the open competition on the high seas from foreign flags. The warning is clear, and the alternative is dreadful. In Mr. Bates' words, "must it indeed be that so large a proportion of the labour expended on British ships by the countless hands that build, sail and cherish them shall be remembered only to have gone as dust with the wind, leaving nothing to mark their going?"

Current Events

Politics and Industry

THERE WAS a time when those who conducted the maritime industries concerned themselves little with party politics. But now they cannot ignore them, for they are involved in politics, however unwillingly, because one party is pledged to make war upon them so as to establish the Socialist State in which all the important industries will be nationalised. The root cause of the recent turmoil in the political sphere has been that the

Chancellor of the Exchequer and the majority of his colleagues, including Mr. Attlee, desire to adhere to the Fabian policy of gradualness, whereas the minority claims that rearmament, involving unexpected and very heavy expenditure, justifies a departure from that policy—a speeding up of the procedure. They would risk the collapse of private industry owing to the burden of taxation placed on it and welcome the opportunity to implement further schemes of nationalisation on the

excuse that private enterprise had failed. That cleavage in procedure will be exposed when the General Election takes place. The time for an appeal to the country will be fixed, of course, so as to favour future progress in what is now described as "the industrial revolution of the twentieth century." Unless something unforeseen happens, the General Election will be postponed until after the Festival of Britain, when the harvest will also be over. In political circles, it is believed that the present Government, with its bulk buying and its extended controls of finance and supplies, will remain, in spite of its small majority, in office until the autumn. In the meantime the prices of everything will rise and claims for higher wages will be pressed; in the result inflation will gather headway. That is the course which, in the opinion of experienced observers, events will take. Must we then conclude that we shall soon be "down and out"? On the contrary, we shall undoubtedly emerge from the ordeal as we have done in the past. The late Lord Fisher used to declare that "this country has been going to the dogs since I was a boy and it has not got there yet." We are not easily defeated, even by crazy politicians, as our history shows.

A Truce

TO SHIPOWNERS, the important event in the month which has just ended was not the differences between Ministers on rearmament or the cost of the health service, but the agreement which has been reached with Argentina, because that will result in a resumption of meat shipments inward and British manufactures and coal outward. It would, however, be unwise to assume that everything in the picture will be lovely to the limit of vision. So long as bulk buying and bulk selling continue, there will be recurring trouble. That is inevitable when matters of trade are discussed between negotiators who are not experts, but exponents of political theories, however, that fact may be disguised. It is, however, a matter of satisfaction that there is to be a truce of at least twelve months in the wrangle which has cost this country so dearly and has been so injurious to the economy of the republic. That the meat, in shorter supply even than in 1939, will cost the housewives of this country more than it need have done is certain, but they will have more meat before the summer comes to an end. The agreement will call for yet another adjustment of tonnage. But, since the Government took over the purchase of so large a proportion of our supplies and the National Coal Board became responsible for the sale of our only exportable raw material, owners are getting used to these changes and are, indeed, showing great skill in meeting each problem as it arises, proof of the flexibility of their administrative machinery. The ultimate cost of these readjustments must be considerable; it would be difficult to reach even an approximate estimate of the loss which has, of course, to be passed on to producers and consumers. That is a fact which the people of this country do not yet appreciate.

Short and Long Term Planning

AS THE agreement with Argentina illustrates, the fundamental difference between bureaucracy and private enterprise is that the bureaucracy takes short views, whereas business men, and particularly shipowners, must take long views, often covering a period of 20 or 25 years. Under this agreement, shipments have been assured for only twelve months, but it must be a matter of two years before a vacant berth can be assured for the building of a vessel—a task covering two or three years—which must be suited to the trading position in five years' time, in the hope that that position will be much the same as when the maiden voyage begins. The experiences in the past year or so of the liner owners engaged in this trade have been without parallel in the history of the industry. Owners were directed to dispatch refrigerated ships to load meat in Argentina last summer, but there was, in fact, no meat to load. That is what is called planning! Gradually as the costs

mounted, idle ships were ordered elsewhere. One of the last to remain, in case she was wanted, was the new refrigerated liner *Duquesa*, which hung round for some months, at a cost to her owners of thousands of pounds. Such troubles were unknown under private enterprise. What could the companies do in these circumstances? Happily they were able to cut some at least of their losses by contracting with other owners for the employment of ships elsewhere. Because of the slow working of cargo in Australian and New Zealand ports more shipping has to be used to carry the same amount of cargo as in happier days. For instance, the *Ripplingham Grange*, which was intended for the South American trade, has recently reached this country with a cargo of New Zealand butter. Now the lines concerned have to readjust their plans in order to meet a situation which may continue to exist for only twelve months. The same applies to the meat trade with Uruguay, with which a similar agreement has now been reached. The effect of the disruption of the meat trade which the bulk buyers have caused is seen in the results of Royal Mail Lines for 1950, in which group profits fell from £727,693 to £539,302. This and other companies with fleets specially designed for the Plate meat trade have a good claim on the Government for compensation for losses caused by Government mismanagement.

A Matter for Inquiry

MR. STANLEY HINDE's letter in last week's SHIPPING WORLD was a plea for the recognition of Southampton as a general port instead of a port for passenger liners. But his remarks have a wider application. He stated, as a generalisation, that whereas in London a ship waits four days for a berth, in Southampton a berth waits four days for a ship. That may or may not be a fair comparison, but it does suggest that the time has come for a close examination of the problem of the turnaround of ships. The Chamber of Shipping has devoted some attention to the matter but, so far as we are aware, shippers have not been greatly interested, though they are the immediate sufferers, since it is they who, in fact, determine the destination of a ship. The situation so far as tramps are concerned has undergone a great change since oil fuel replaced coal in many, if not most, vessels engaged in the carriage of general cargoes. They are no longer tied to ports which can supply them with coal in the quickest time and at the lowest price. Since so many ports are now controlled by the Docks and Inland Waterways Executive, that authority could usefully set some of its planners to work to study ways of speeding up the turnaround of ships so that every port in this country, in the last analysis dependent on its ports, may render the maximum service to shipping and, therefore, to the nation. We cannot, in the economic emergency which faces us, afford to neglect any opportunity of cheapening the carriage of goods into and out of our ports. The aim must be to encourage every port to reach a higher level of efficiency in loading and discharging and, if Mr. Hinde's letter leads to action, not only in regard to the bigger but the lesser ports, he will have done service not to shipowners and shippers only, but to the whole community, for there was never a time when it was more essential to wed cheapness with efficiency and save time and money.

Food for Thought

THOSE who talk airily of the nationalisation of shipping might with advantage read an article entitled "Formula for Freight" in the current issue of *Reef Knot*, the well edited and attractively produced house magazine of the South American Saint Line. It has been written by "Dead Easy." He begins by stating that the main object of his existence is to keep the ships supplied with cargo, the books showing a profit, the laws of seven different countries, four Conferences, 3,000 contracts, and the peace with the hundreds of people involved in the business, in one way and another all of whose interests are paramount, but con-

flicting. "The position is not unlike that of a referee—one unfortunate amongst 50,000—all of whom have better eyesight and without whose ready advice the job could doubtless be done more efficiently." The writer is no politician, but it would have been impossible to describe his varied duties without some remarks which could be misconstrued as political. After remarking that the main object of the "Homeward Programme" is to load fully, regularly and simultaneously from the River Plate and Brazil, giving preference to the interests of the important shippers in both areas, he points out that the overriding consideration is that Government cargo must be catered for, and the Ministry of Food insist upon the vessel loading in the River Plate for Belfast, at the same time demanding that we carry their rice from South Brazil to London. The Board of Trade, through the Timber Control, demand that their contract be fulfilled for timber from Brazil to Hull, but this is difficult because the Raw Cotton Commission insist upon their cotton being shipped without delay, at Santos, for Liverpool. However, it is clear from the figures (and this is the fundamental) that a time charter to Australia shows the best result "as we must recover the regular losses on the berth (which is the lifeblood of the business), but this will make the vessel about six months late in arriving in Antwerp and may prejudice our relationship with the shipper, whose cargo is waiting (demurrage for our account)." The general conclusion of an unbiased reader of this article is that the management of shipping, even to make ends meet and if possible secure a profit, is not as simple as some people imagine. It is a pity that M.P.s cannot read this issue of *Reef Knot*.

Restrained Dividend Increase

HARD on the heels of the announcement of increased distributions by P. & O. and Cunard comes a similar decision by the board of the Union-Castle Mail Steamship Co., Ltd. That company is stepping up its dividend for 1950 by a modest 2 per cent to 10 per cent. The City welcomes these decisions of the great liner groups to relax the severity of their postwar dividend policies, though there are some who ask for more. But the directorates of the shipping industry are wise to continue adding to the reserve and financial strength of the companies under their charge. Shipping profits have, in the past, fluctuated widely, and will do so again. Indeed, it may be discovered from the 1950 preliminary statement of Union-Castle, by a process of arithmetical joggling backwards, that the trading profits of the group fell in the year under review from £5,111,000 to £4,303,000. These results, which exclude special credits, are a reflection of the increased fuel, labour, loading and unloading, supply and other costs. The condition of the freight markets in the early part of last year did not permit of adjustments of the freight to the costs structure. However, the dividend policy of Union-Castle, as with the other two companies mentioned, remains restrained. The net profit for the past year was £1,531,000: the preference dividends cost £88,000 net, while the increased payment on the equity calls for a disbursement of no more than £144,000 net. The raising of the dividend is, of course, in part an acknowledgment by the board of the benefits now accruing from the strong world demand for liner, tanker and dry-cargo shipping space. The market generally is firm and likely to remain so. It is at least tolerably certain that the 1951 results of the majority of shipping companies will show an improvement on those of 1950, although Mr. F. A. Bates, speaking for Cunard, warns that 1950 may have been the peak year.

Shipbuilding Finance

WILLIAM DENNY & Brothers, Ltd., the Dumbarton shipbuilders and marine engineers, obtained excellent results in the calendar year 1950 and, with full employment promised all departments in 1951, an equally good profit should come of the current year's operations. In the year under review trading profits rose from £255,000

to £310,000. Tax takes £127,000, leaving a net profit of £109,000 to which is added a tax cover provision of £30,000. A dividend of 10 per cent, the rate paid since the company became public in 1939, is again recommended and was more than seven times covered. It costs no more than £13,750 net, compared with £90,000 allocated to reserves and £14,000 added to the carry forward. On this occasion, however, stockholders receive extra pay in the shape of a 5 per cent tax free bonus, absorbing £12,500 from the special credit mentioned above. Long practised financial conservatism has left the financial position in good shape. Reserves aggregate £732,000 and provide a stout buttress for the issued equity of £250,000. Current assets of £1,468,000 include £315,000 in cash and £293,000 in Government securities: they exceed current liabilities and provisions by £871,000. There is thus ample accommodation for capital commitments of £61,000. Fixed assets are at the same time moderately valued at £361,000, buildings and plant having been considerably written down.

Propulsion for Tankers

THE DECISION of the Shell group to adopt steam turbine or turbo-electric propelling machinery for its new 18,000 tons deadweight general purpose tankers came as something of a surprise to those who have been closely following the work of Mr. John Lamb and his researches into the adaptation of diesel engines for burning boiler oil, and his experiments with gas turbine propulsion. Whereas American tanker owners, in particular, prefer steam turbine propulsion for their tankers, British owners have hitherto preferred diesel machinery for their general purpose tankers, although steam turbines are the rule for the larger class of vessel. It seems that the increase in size and power of the general purpose tanker to 18,000 tons deadweight and 14½ knots speed has weighed in favour of the steam turbine. On the other hand, opinions must now be revised about the choice of machinery even for the largest tankers, for news now comes of two tankers of 29,000 tons d.w. being ordered from Rosenberg mek. Verksted by Sig. Bergesen & Co., the Norwegian owners. These vessels are to be propelled by Burmeister & Wain diesel engines, and will be the largest motor tankers so far ordered, apart from the *Berenice* and her sister ship now being built in France. Bergesen's tankers are to be delivered in 1954 and 1955, and they have already been taken on 10 years' time charter by the Vacuum Oil Co., Ltd., for the transport of crude oil to the new refinery at Coryton, Essex, which is now being built. The *Berenice* is not likely to be completed before the end of this year, so some time will elapse before results of these large motor tankers in service can be assessed.

Cracks in Steam Pipes

THE FIRST of two papers read recently before the Gulf Section of the American Society of Naval Architects and Marine Engineers by Mr. Arthur Gatewood, chief engineer surveyor for the American Bureau of Shipping, dealt with a steam pipe failure in a superheated liner and contained some interesting references to the effect of thermal shock. The pipe in which crack failure occurred was 3½ in. external diameter with a normal wall thickness of ¾ in. and was of carbon steel. Used as a connection to a boiler superheater outlet, the pipe had been in service for only about a year, passing steam at 325 lb. per sq. in. and at 765 deg. F. total temperature, when circumferential cracks appeared on the upper side of the pipe near a combustion control connection. On examination of the pipe, it was found that the inside bottom surface, that is 180 deg. away from the cracks, was pitted along its complete length. Laboratory tests showed that failure had been due to corrosion fatigue which itself resulted from the thermal shock when condensate was carried over into the main steam line from the connection to the combustion control. It was found on an inspection of the ship concerned that there was a long unlagged

horizontal run of pipe, of between 20 and 30 ft. in length at the same level as the main steam line before it dropped down to the combustion control panel. As this was a dead-end line and the master control operated with water contact, it was thought probable that the condensate would periodically fill up to the level of the horizontal lead, occasionally carrying water into the steam line. If this had been the case, the fatigue loading which initiated these cracks could have been caused by the thermal shock experienced when condensate at least several hundred degrees cooler than the steam entered the main line. It was felt that there would be less chance of trouble of this kind if a thermal sleeve connection were used and if a vertical drop of some distance were given to the combustion control connection; in addition, lagging to this pipe was recommended. The main lesson to be learned was that careful consideration needed to be given to the effect of motion of the ship on the contents of any dead-end line connection to a superheated main steam line.

Material for Propeller Shafts

THE second paper read by Mr. Gatewood gave the results of an investigation into the materials used for propeller shafts. It was pointed out that until the beginning of the Second World War, no changes had been made in the Bureau's rules for this type of materials for a number of years. At that time, however, at the instigation of the U.S. War Production Board, the amount of reduction in cross sectional area from ingot to forging was changed from 5:1 to 3:1 in an effort to expedite the national defence programme. The basis for the recommended change was the satisfactory service record which the U.S. Navy had already acquired with shafting having this lesser reduction. Subsequent reports on the standard tensile tests disclosed no difference between the results obtained with the prewar shafts and those made during the war, but when it was found that the incidence of failure was increasing not only in Liberty ships but also in other groups of war-built vessels, it was thought that some other factor in the material which was not being disclosed by the standard tests might be responsible for the less satisfactory experience. A detailed investigation had therefore been made, with the support of several large American shipbuilding and steel companies, the final investigation covering tests on eight forgings with a range of reduction from 3:1 to 5:1. The results show nothing which indicates that better shaft performance would be obtained if the present requirement of 3:1 ingot reduction were changed to the former requirement of 5:1 reduction. It was also considered that the effect of shaft diameter, tensile properties, impact properties and grain size had no correlation with the service life of the shafts tested. Of the two shafts which had given good service one was of American manufacture, with $\frac{1}{2}$ per cent nickel content and the other, made in Britain, had a considerably higher manganese content than those made in the U.S.A. The British-made shaft had been manufactured prior to 1936 and had been in regular service until the vessel was scrapped in 1950.

Clean Bills of Lading

AT THE Paris conference of the International Chamber of Commerce in April 1950, a revised definition of a "clean" bill of lading was adopted, and while this revised definition satisfied shipping and insurance interests, it transpired from the annual report of the Chamber of Shipping of the United Kingdom that the British Liner Committee, having taken counsel's opinion of the wording, was carrying on further discussions with the London Chamber of Commerce and the British Bankers' Association. No doubt it was as a result of those discussions that the L.C.C. Committee has now drawn up a further revision, wider in scope than the original version in that it concerns shipping documents in general and, going beyond the function of a definition, lays down the circumstances in which shipping documents may be refused. Refusal is just-

fied if the documents bear reservations as to the apparent good order and condition of the goods and the packaging. The new wording goes on, however, to lay down that such documents should not be refused merely because they contain:—

(a) clauses which do not expressly state that the goods or packaging are unsatisfactory, e.g., secondhand cases, used drums, etc.

(b) clauses which emphasise carriers' non-liability for risks arising through the nature of the goods or packaging;

(c) clauses which disclaim on the part of the carrier knowledge of contents, weight, measurement, quality or technical specification of the goods.

These qualifications are identical with those of the original wording in which they were appended to the definition of a clean bill of lading in the form of a footnote. Finally the revised wording defines a clean bill of lading as "one which bears no superimposed clauses expressly declaring a defective condition of the goods or packaging," which is the wording of the original definition. The revised wording will come before a conference of the International Chamber of Commerce in the summer. It is understood that any opposition to the initial wording that may have existed has now been withdrawn, and there is every prospect that the revised draft will be ratified by the conference. It may be noted that if, as is believed to be the case, the revised wording is acceptable to banking interests, the transaction of overseas trade will be greatly facilitated, for hitherto the insistence of the banks on unclausal bills of lading, even if the clausing did not make them unclean, has been the cause of many difficulties in the taking up of shipping documents.

Bulk Handling of Sugar

SINCE successful shipments of sugar in bulk have been handled on this side of the world for some time, it is interesting to read in the latest issue of *The Harbour* to reach this country of similar experiments which have been carried out by the Colonial Sugar Refining Co., Ltd., in the Southern Hemisphere. To gain experience in this method of handling sugar cargoes, the company loaded a trial cargo of sugar in bulk from Fiji for London in the *Peter Dal*. This vessel has three hatch openings, each about 25 ft. by 75 ft., no tweendecks, and two sets of derricks to each hatch, and was regarded as eminently suitable for the purpose. In preparing the vessel for loading, all hatches were inspected to ensure cleanliness and absence of moisture or condensation. Sections of the hatch covers were removed and metal grids placed over the open sections. As all sugar in this shipment had previously been bagged, the bags were stacked adjacent to the opening, and emptied by Fijian labour through the grids into the holds. The position of the openings was moved as required, so that the minimum of trimming was necessary, and only when loading had been completed. The angle of repose of the sugar in the holds was calculated to be about 32 degrees and the stowage factor about 40 cu. ft. per ton. The rate of loading by this method was slightly in excess of that for normal bagged sugar, but this would be greatly reduced when proper bulk loading plant was installed. At any rate the company is convinced that conversion to bulk handling, while a long-term and initially costly project, will contribute to the cheaper production of sugar, even if only by reducing the time spent by vessels in Australian ports. Work is already proceeding on the installation of bulk handling plant at Sydney.

SHIPS UNDER CONSTRUCTION

The quarterly booklet published by *The Shipping World* giving details of merchant ships under construction or on order has now been extended to include all the principal shipyards of the world. The first booklet to contain this additional information is being distributed to subscribers with this issue of the *Shipping World*.

Entitled "Merchant Ships under Construction or on Order in Shipyards of the World," it gives clearly and concisely the state of the order books in the world's shipyards. Extra copies may be obtained (price 1s. 6d.) from the publishers.

ON THE "BALTIC"

THE INSISTENT AND WORLDWIDE DEMAND FOR TRAMP SHIPS

By BALTRADER

IT HAS often been pointed out in recent years that the tramp element of shipping has given ground to the liners. Statements have even been made in the national Press suggesting that the last days of the tramp ship are approaching. Cargoes of the kind which tramps are specially suitable to handle have increasingly occupied the holds of regular liners; one would mention among other commodities grain, cement, and oilcake, or to hark back into the more distant past, coffee and cotton. There was a time when the "Form O" charter was in much use for shipments of cotton from the Gulf of Mexico to the United Kingdom by tramp ships, but few present-day brokers or owners would have personal recollection of working that trade.

Last year the Chamber of Shipping index of tramp shipping freights was about 70 per cent of the 1948 figure. Owners of tramp shipping were concerned to see how much of the wheat moving from the St. Lawrence and grain and other bulk cargo shipped in the River Plate was being brought to Europe by the regular lines. There was, indeed, a constant stream of cargo, in which motor cars were prominent, flowing from Great Britain and Continental countries to South Africa, Australia and the East. Many or most of the vessels which carried these valuable exports were tramp ships, but they were on time charter to the liner companies. That was a year ago and much has happened since. Rates of freight have reached a level which makes the time chartering of outside tonnage unattractive to the liner companies, who have reduced their chartering operations to a minimum. Their services have suffered accordingly and cargo has accumulated on this side. Some of the liner companies' most important clients have come into the market for tramp ships and chartered these for full cargoes at high rates. No doubt as a result of this, it has been noticed in the past week or two that time charter inquiry for liner account has increased; high rates have been paid such as 60s. per month for the trip out from this side to Australia. In that particular trade the responsibility which the time charterers assume is not only the payment of a large monthly hire but also the possible extension of the period by long delays in Australian ports, congested with shipping and too often threatened by labour troubles.

Present High Earnings

No one today would suggest that the tramp ship is doomed; the demand for its services is insistent and worldwide. It is sought for by would-be purchasers (especially the Japanese) at fantastic prices. It is earning freights much higher than those of many liners, although its capital cost is small in comparison. There never was, of course, any serious question of the disappearance of tramp shipping; although the owners of this class of vessel have often and for long periods been allowed to writhe in financial foils, the world could not afford to lose their services. The red light was seen in the years immediately before the last war when, for some time, it had been almost impossible to finance building of ships by reason of low earning power. Some encouragement was given by the Government, which led to a valuable addition to the British tramp fleet; this was, nevertheless, far too small to meet the crisis of the war, and much of the Allied war effort was devoted to building tramps. Whenever anything goes seriously wrong in the world—wars, famines, or tensions between the nations, all of which now operate—the ubiquitous tramps are expected to converge on the key positions. Money is no object to the charterers if only they can secure the shipping space to fulfil their contracts. People shake their heads at the soaring

freights and ask how the owners can have the heart to accept them. It is then forgotten that there are periods when many tramp ships are propelled by over-drafts at the bank or rusting out of sight in a laying-up berth.

In those times the regular lines are protected by their conference rates from the worst of the decline in freights but do not escape the effect of a general shortage of cargo. More and more they draw on the available grain and other commodities which tramps would otherwise carry. They fill their refrigerated chambers with bulk cargo if no high-class freight is forthcoming. They must maintain their services although their ships are not full, at loss to themselves and to the great detriment of the tramps. The fact is that the supply of shipping, whether tramp or liner, cannot always be equal to the demand; it is sometimes too plentiful and at other times insufficient. When the latter is the case owners must be allowed to retain enough of their increased earnings to renew their fleets, for they certainly cannot make provision for the future at times when they are struggling for bare existence.

The Freight Markets

MARKETS have further advanced during the last week, and in all parts of the world except possibly the North American coal market there is an acute shortage of tonnage. The firmness ranges from the outward coal market on this side to Dairen and the Pacific. The feature of the Far Eastern market has been the chartering of four ships from Dairen to East Coast India, basis 135s. grain, option soya beans for May loading. This tonnage is to carry the food grains promised by the Chinese Communist Government to relieve the threatened famine in India, and so the earliest ships possible are required. It is reported that further ships have been chartered for May/June loading from Dairen to Antwerp/Rotterdam, basis at 200s. The Pacific Coast has been active with several vessels chartered at 14 dollars heavy grain to Japan, for lumber and generals to South Africa at 270,000 dollars f.i.o., and Australia 323,000 dollars f.i.o. The Australian market continues firm with m.s. *Tresillian*, 9,000 tons, 10 per cent, 166s. 3d. bulk wheat ex silo, 171s. 3d. bulk ex bags, May 15/30 from full range Australia to U.K. Also m.s. *Hermion*, 7,600, 10 per cent bulk wheat, 166s. 3d. ex silo, 171s. 3d. bulk ex bags, 5 per cent Commission; September 1/November 1, dates to be narrowed, to the Continent.

The feature of the American market was the slight fall in the coal rates; 13.50 dollars for the *Lugano* for May to Genoa and 11.25 dollars for the *Etrusco* from Hampton Roads to Antwerp or Rotterdam with the option of Hamburg or Bremen at 11.75 dollars with second and third trips at 50 cents less. Another feature of the American market was the fixture of Gulf sulphur, following the further release of the commodity to the U.K., per *L'Evêque*, 9,000, 10 per cent, 143s., June 5/25, and it is understood that five more ships are needed.

The time-charter market continues strong, especially for trips out to Australia, 50s. having been paid for the *Saint Gregory*, 10,400 t.d.w., 478,000 cu. ft. bale; 10½ knots on 25 tons of oil, and 60s. for the *Fernmoor*, 9,170 t.d.w., 487,000 cu. ft. bale, 10 knots on 7½ tons diesel oil, both for May delivery.

The timber market is strong with 400s. having been paid by the Russians for a vessel of about 1,600 fathoms from the White Sea, and the Timber Control have taken a Finnish ship of 1,100 fathoms pitprops at 180s. free discharge for May/June from the Middle Zone of Finland.

THE U.S.A. AND WORLD SHIPPING

THE POTENTIAL DANGERS OF ARTIFICIALLY FOSTERED SHIPPING

By RONALD KENDALL

IT WOULD be an understatement to say that the future of that section of world shipping based west of the Iron Curtain is somewhat difficult to assess. There are more factors of importance in the shipping scene than there have ever been, and many of them are almost impossible of reconciliation. European countries wish to retain the greatest possible measure of that freedom of the seas under which world shipping prospered, but it is almost impossible to attain this unless world trade is effectively multilateral, and we are not even within sight of this condition. Great Britain and other European countries are poorer than before the war, with overseas investments spent and colonies lost in the process, and must therefore depend even more than before upon shipping earnings. Despite the realisation of this, there is continued advocacy of State fleets in Argentina and India and protection or subsidies in the U.S.A. and elsewhere. The Socialist government in this country first nationalised all inland transport, as well as coal, gas and electricity; sending up costs, then took over steel, encouraged trade unions to talk of State shipbuilding, and still buys a large part of food and raw materials by inefficient bulk buying methods. They then tell the shipping industry to go out upon the oceans of the world and earn as never before; it having done so, a large part of the earnings are appropriated in crippling taxation, thus preventing sufficient funds for future building to be accumulated. The British and European owner has merely then to keep in touch with technical developments so that his ships are not outdated, foresee how rearmament and shortage of raw materials will affect his future, guess what part his ships will play in the North Atlantic Treaty shipping pool, and compete with subsidies and flag discrimination in almost every part of the world. He may note at this point that Admiral Cochrane, chief of the U.S. Maritime Administration, has said that Reserve Fleet ships to be operated by the newly formed U.S. National Shipping Authority are not intended to compete with private shipping, but it is hoped "that they will influence the overall shipping situation" by decreasing rates. It short, the part played by the State in each maritime country, the relations between the various countries, and the effect of preparations for defence in any future war serve to give a feeling of helplessness in planning for the future.

Fundamentals in World Shipping

Shipping, like all other major industries, must of course fit in with a broad plan for the economic and defensive arrangements now being made for the Western democracies. It must never be forgotten, however, that the first enemy is not a particular country, but a political creed. Communism breeds upon poverty and want, and the first line of defence must always be a rising standard of living in all free countries. For this to take place, each nation must produce the goods or services for which it is best fitted and which it can produce more efficiently than can be done elsewhere. Otherwise the maximum progress in the economy of all free nations will not be made, leading to discontent and distrust between countries which are in fact mutually dependent. Artificially fostered merchant shipping, no matter in what country, is helpful to neither the economic nor the military strength of the free world.

It has often been said that there is a world shortage of dry cargo tramps; and it may well be, under the present artificial situation with grain movements across the Atlantic instead of between Pakistan and India, and with the need for more raw materials to be shipped both for rearmament and stockpiling, that this

is the case. It would surely be better, however, to charter U.S. Reserve Fleet ships to owners of countries needing shipping earnings as part of their postwar economy, than to add the money from freights to the U.S. surplus production revenue. The free world owes much to Marshall Aid, well termed the least sordid act in history, but to run subsidised tonnage so as to reduce freight levels for ships operated by countries whose recovery depends upon invisible exports is to nullify much of the good work which has been done. There is a need for statesmanship among the authorities of the North Atlantic Treaty powers.

The Opportunity Open to America

If, as Admiral Cochrane has implied, world freights are at present too high, the statesmanlike solution is to make more U.S. reserve cargo ships available to those nations which are maritime by necessity, as it will lead to increased trade in goods with America and greater production in the industries of Europe using American raw materials and machinery. The ultimate danger of too great American participation in world shipping is that the time will come when, for every American vessel which enters the shipping market, protected by subsidies, one European ship, not so protected, will have to be withdrawn. On the other hand, there is an opportunity open to the U.S.A. of which no other nation can take advantage. Any future war will demand higher speeds in merchant ships of all types, and there is much to be said for building 20-knots prototype vessels so that, in the event of war, plans for the types of ship required, already tried and tested, would be readily available to the free world, and in particular, to Britain with a potential shipbuilding capacity of 3,000,000 tons gross. It would even be advantageous if considerable numbers of these ships were to be built, some of which might be chartered to the essentially maritime nations and others placed in a new reserve fleet. There is no doubt, of course, that America needs a merchant fleet of its own; apart from other requirements the demands of U.S.A. coastal and Great Lakes shipping must always be considerable. But whether in the new world now being painfully shaped the U.S.A. really requires a privately-owned fleet of almost 15,000,000 tons deadweight is surely a matter which might be considered on a broad plane. The free world will never forget the overwhelming contribution which American shipyards, both established and temporary, made in World War II towards providing the immense fleet then essential to the needs of war. It is imperative, however, that in considering future development of world shipping, the economic needs of European countries be treated as the first fundamental in a rearmament programme. The free world may well be asked to give up much more important things than national prestige in merchant shipping if international relations worsen to the point of war.

A DONATION of £500 has been received by King George's Fund for Sailors from the British Tanker Co., Ltd.

THE 6,000 tons cargo vessel *Settler* has arrived at the Blyth Dry Docks & Shipbuilding Co., Ltd., Blyth, for conversion from coal to oil burning.

SMITH'S DOCK CO., LTD., North Shields, has received the troopship *Empire Parkerton* for refitting. The work will take about three weeks.

THE annual general meeting of the Iron and Steel Institute will be held in London from Wednesday, May 30 to Friday, June 1.

COAL EXPORTS through the Humber ports in the first 12 weeks of 1951 fell by more than one million tons compared with the corresponding figure for 1950. Imports amounted to 43,000 tons, as against none a year ago.

CUNARD STEAM-SHIP COMPANY, LTD.

DEVALUATION AND SHIP REPLACEMENT COSTS

Statement of the Chairman

MR. F. A. BATES, chairman of the company, in a statement to stockholders for submission at the 74th annual meeting to be held on May 23, says:—

On July 4 (Independence Day) 1840, sailed the *Britannia* from Liverpool on her maiden voyage, with Samuel Cunard on board, leaving his partners George Burns and David MacIver to watch the sailing from the dock side. So began the company's Atlantic service. *Britannia* was the ship whose lounge was described by Charles Dickens as "having at the upper end a melancholy stove, at which three or four chilly stewards were warming their hands". From that beginning and that first ship—a sea Queen of her day—has sprung the company's present fleet, so different, except in the unchanging Cunard spirit, from the standards of Dickens' description. Nor was he the only one of the great authors of last century to leave some record, critical or otherwise, of their voyages in our ships. Readers of Mark Twain will remember that he also "had a go". It is touches such as these from the brush of history which colour the background of the Cunard stage and mark the 1951 viewpoint of the company's progress.

Board and Management

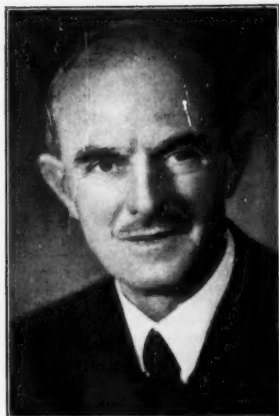
Where there is progress there must always be change, but with change comes renewal from the strong reserves of experience. It is with this thought that I refer to the death last November of Lord Royden, who remained an active director and a staunch contributor in all the board's deliberations to the last day of his life. He served on the board for 45 years and had been chairman for a period of eight years following the first war. His bequest to his colleagues is a great fund of experience and the memory of a long life devoted to the welfare and interests of our company.

At the end of December last, Mr. S. J. Lister decided to retire from the board. He is another of those who have spent a long career in the service of the company, which in his case has extended to 58 years. Mr. Lister has been a director of the Cunard Company for 21 years and general manager for 12, and was appointed to the same positions in Cunard White Star, Ltd., on its formation in 1934. It would not be possible to put too high a value on his services to the company over so long a time.

Sir Richard Hopkins, who has been a most valued director and colleague, has found it necessary to retire from the board, owing to increasing responsibilities and duties which detain him in London. His sound counsel has been very helpful to myself and to the directors on many occasions and I am glad to know that his great interest in the company's progress is in no way relaxed by his retirement.

The new directors who have taken their seats since the last meeting are: Mr. W. H. Brown, Mr. Percy Furness, Lt.-Col. Austin G. Bates and Mr. C. E. Pierce, and I am sure the members will be glad of the opportunity to confirm their election. Mr. Brown, Mr. Furness and Mr. Pierce bring to the board their already great experience of the company's work in all its diversity both technically and geographically. Mr. Pierce will shortly be returning from an extensive tour of our American organisation. Lt.-Col. Bates, long associated with the Brocklebank Company, has many qualifications on the technical and other sides of shipping administration and on modern ship design

Mr. Frederick Alan Bates, M.C., A.F.C., D.L., chairman of the Cunard Steam-Ship Co., Ltd.



which have already been of great service to our group.

As I foreshadowed a year ago, Sir Ashley Sparks has retired from the office of chief representative in the U.S.A. and has been succeeded by Brigadier J. H. Hardy. Sir Ashley, I am glad to say, is still a director and his long experience of our affairs on the other side of the Atlantic continues to be a source of strength to the company. As he has passed the age of 70, I shall be proposing to the members of the annual meeting his re-election, in accordance with the provisions of the Companies Act.

Another change to which special reference should be made is the retirement of Mr. Robert Crail from the position of general manager, while retaining his seat on the board. Mr. Crail's services as general manager since 1945 have been of a very high order, his management responsibility having covered with marked success the very difficult period of renewing our fleet and reorganising the business of our ships following the war.

Mr. F. H. Dawson, whose election to the board the members confirmed last year, has been appointed to the managerial position relinquished by Mr. Crail, and the members will, I know, wish him a happy and successful period of office. He has also been appointed to the Port and Brocklebank Line boards and, like his predecessor, has the good wishes and support of all the Cunard team and of its associated companies.

While on the subject of board changes, I would like to draw the attention of the members to the resolution contained in the notice of the annual meeting, regarding the number of directors. The present articles provide for a maximum number of 18, but may be altered by ordinary resolution. The directors recommend that this maximum should now be increased to 22 and the requisite resolution will be submitted for the members' approval.

Splendid Teamwork

Before dealing with the year's accounts, may I say how very sensible I am myself, as chairman, and equally so are all the directors and managers of our different companies, of the splendid teamwork of all the staffs whether at sea or on land. Especially do I express the company's thanks to the masters, officers, and crews in ships and to the staffs of all the offices in both hemispheres; they husband our ships and tend so well the passengers and cargo committed to our care. I make a special note of thanks to our agents and friends, many far distant in sea miles, but near to us in the company's esteem. A fitting motto for the companies within our group, including Cunard, Cunard White Star, Port and Brocklebank Lines, and all the rest of our organisation, might well be "Teamwork round the clock, the year and the globe".

Whether in the U.S.A. and Canada, in Australia and New Zealand, in India, Pakistan and Ceylon, in Europe or at home, or at sea in our ships, the same salt wind is in all our faces and the same bonding cement of joint endeavour in all our sea ventures. I sometimes pause to consider what a wonderful thing is the spirit that pervades the decks of a well-found ship from bridge to engine room, or for that matter the decks of a company. It is the intangible asset which all are helping to build with every new keel laid in the company's history.

There can be no British way of life which does not prosper the ships and those who sail in them. Their service is rendered under circumstances very different from other industries in our island economy. The carrying of the ships begins where the landways end and their sailings from the home ports are into the blue waters of worldwide commerce. A main part of their life and voyages, so essential to the homeland, is yet spent in distant seas in competition with the ships of every other nation.

It is no catchphrase that the seas are free to all. Competition between the nations to carry commerce is intense, and so it should be. The seas are still free, but, as history affirms, we have the Royal Navy to thank for it against the pirate and aggressor down the centuries. The Royal and the Merchant Navies are indivisible in their need of each other and to slacken in the tenets of our sea faith might be to change the course of history and risk the freedom both of Britain and the Commonwealth.

The urge to adventure and enterprise, which are the foundations of British commerce, is still as strong as ever. Many a young man wants to go to sea for whom there is at present no ship, and many a would-be merchant adventurer is only barred from travel abroad by currency and other restrictions. This is dead loss to Britain's future. It will be well for the Cunard Company, and for all Britain's Merchant Navy, when economic theories at home that hamper adventure abroad can be buried in the grave of frustration with a line on the headstone—"Better sail in a ship than live in a sheep-fold".

1950 Figures

This is the fourth year of consolidation of the accounts. It becomes a bit easier with each year, but it remains a feat of office management and of accountancy to produce consolidated accounts of our round-the-world shipping companies within four months of the year's end. It is a kind of accounting relay race and congratulations and thanks are due to the departments and offices everywhere who have taken part in the race and made such good time in their relays.

In considering the figures there must be borne in mind the devaluation weight-cloth which is now on the company's back. Its handicapping result has not yet been fully assessed. A transient increase from devaluation came into the profit and loss account of 1950, but as I expected, this is now disappearing in rising expenses. The long-term effect of devaluation on the Cunard Company is the depletion in purchasing power of the reserves set aside over twenty years or more to replace the older ships. It will be noted that on this occasion the word "profit" becomes "surplus" in the relevant items of the accounts, thus expressing the present uncertainties in the replacement problem.

The consolidated accounts provide an accounting picture comparable with the consolidated accounts of a year ago. Depreciation at £2,512,776 is much the same, but I should be lacking in frankness if I did not give warning that the figure so charged is no better than notional, being based on the original but now unrealistic first cost. It requires suitably multiplying to cover the replacement of the hull plates and machinery reckoned as expended during the trading of 1950. The using-up is obviously a trading expense, like anything else that has to be charged to voyage accounts at current cost. It will soon be impossible to get even a telephone call for pre-devaluation cost

and certainly not a steel plate. This £2,512,776 notional depreciation relates to ships the current replacement cost of which is estimated to be about £120,000,000. The useful life of a ship, unless special circumstances prolong it, is generally taken to be 20 or 25 years. From these two factors—replacement cost and a ship's life—are compounded the real cost to the company of renewing the rusted plates and used-up equipment applicable to a year's trading.

Devaluation and Replacements

It is clear that devaluation has introduced a new factor which greatly affects the replacement future. Pre-devaluation money expresses one part of the accounts and post-devaluation money another. The directors continue to make additional reserves to supplement the depreciation, but the tax computation has not yet been revised to meet the new replacement factors. The company now has to deal with the twin ills of multiplied replacement cost and inflationary taxation alike nationally imposed. Moreover, the poultice of devaluation nationally applied has left a dark bruise on the cost of living of everyone. No excuses, however publicly expressed, stop the prices rising little by little of one thing after another. And this is the historic result of a devaluation; a Cæsar did it and probably a Pharaoh. I have been told that the record or blue riband in devaluations is still held by John the Good, who became quite an addict. It may be remembered that failing to correct his finances by more and better devaluations and extortionate taxation, he was quite glad to get out of it all after being taken prisoner at Poitiers. He finally retired to England, leaving someone else to clear up his mess.

Commenting on the rest of the consolidated accounts, the operating surplus is shown at £10,780,750, being £1,886,000 more than last year, but taxes absorb £4,918,238, so the increased operating surplus brings no benefit to the company and even adds to the weight of taxation on its back.

It is a depressing thought that apparently the Cunard Company is getting involved in the law of diminishing returns. This is the law with which Chancellors have so often had trouble when trying to find sources of additional taxation. The increased surplus and the still greater tax have been achieved by using up an immense amount of life and work, in order to pay so great a figure of tax money. Whip and weight-cloth are the incentives offered to us and without even the proverbial carrot for the donkey.

The consolidated figures below the line are, I think, self-explanatory. Small outside shareholding interests in minor subsidiaries take £1,519—a negligible figure which it has not been convenient to eliminate. The provision for pensions and cognate funds is £350,000—the same as last year. £1,244,862 is retained by subsidiaries and affords strength to their finances. The Cunard transfer to the public reserve at £1,250,000 is £250,000 up from last year's transfer. The consolidated balance carried forward is slightly increased to £1,240,836.

Cunard Profit and Loss Account and Balance Sheet

As I explained at the time, the figures of 1949 were affected in exceptional degree by the changes in the accounts then in progress, so the figures of 1950 are not in all respects comparable with those of the previous year. The depreciation of ships—£1,322,642—is, as I have already said, of a notional character based on original cost. Owing to the various changes, the operating surplus of £7,756,454 is not comparable with the 1949 figure. The tax debit—£4,218,451—includes provision for the retrospective increases announced by the Chancellor in the 1951 Budget. The 1949 tax was considerably reduced, as explained in my statement a year ago, by the incidence of the initial allowances.

The surplus balance carried down, at £2,231,238, is properly comparable, showing an increase of £186,939 over the 1949 figure, subject to my caveat about the provision for wear and rust. From this balance the

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APRIL 30—MAY 11, 1951

C.M.A. at the B.I.F.

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T.S.S. ARNHEN



MELESCO

In 1947 the T.S.S. "Arnhem" went into service on the Harwich-Hook crossing, giving a praiseworthy performance. It is significant that when the sister ship T.S.S. "Amsterdam" joined the service on this route in 1950, its boiler equipment was identical—including Melesco Superheaters.

ON THE HARWICH-HOOK SERVICE

The **SUPERHEATER**
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The Authority on Superheated Steam

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T.S.S. AMSTERDAM

With acknowledgments to British Transport Commission.

BA.52

directors recommend the same provision for pension and cognate funds as last year, £350,000; also the transfer of £1,250,000 to reserves, which is £250,000 more than last year, and finally the dividends as already announced. The balance carried forward is £1,240,836, being the slight increase of £40,349 over 1949 already mentioned in my comment on the consolidated profit and loss account.

Turning to the Cunard Company balance sheet, the figures here are comparable with 1949 because the Cunard White Star assets transferred to the Cunard Company were incorporated in the Cunard 1949 balance sheet under their respective headings. The ships at £13,707,726, as against £14,866,466 a year ago, reflect (a) the coming into service of s.s. *Assyria*, (b) the sale of two cargo ships acquired after the war to tide us over the shortage of tonnage, (c) the disposal, for breaking-up purposes, of *Aquitania*, and (d) the normal depreciation for the year. The change in the figure of freehold and leasehold properties is unimportant.

The only other assets calling for comment are the holding of £1,500,000 tax reserve certificates to meet our increased tax liabilities and the investment of £2,500,000 in Exchequer stock. These latter transactions leave our cash at bankers at £1,939,172. Part of this money represents passage money received but not earned at the close of the year. Under the reserves item our share premium account remains the same at £1,566,000. The rest of these reserves have increased to £12,235,000. The remaining items are either self-explanatory, or of the usual omnibus character including creditors' and debtors' accounts and various provisions and reserves.

Dividends

An interim dividend of 2½ per cent has been paid and it is now proposed that a final dividend of 10 per cent be paid, making a total of 12½ per cent for the year as against 10 per cent for the previous year. This increase of 2½ per cent will cost us net—£143,295, including the increase in taxation, leaving the carry forward at £1,240,836.

The aspects which have to be considered in relation to any dividend declaration are manifold. In the first place the stockholder-members' services to the company, past, present and future, are as essential to its continuance and healthy growth as any other part of the company's economy. When they invest their funds in our adventures and in the risks of our shipbuilding and ship-operating they become members of the company, sharing the hazards with us all. Only two years ago they put up £3,900,000 more capital to buttress the company's fortunes. It is important to the company's future that the stockholder-members should realise that the company is grateful to them for their support, for on that road lies the company's credit when we next need their help. As to the prospects of maintenance of any particular dividend rate, the members will realise that the times are full of risk. Each year's accounts are the company's stepping stones, and caution is enjoined in stepping to the next. The directors have to bear in mind the wide interests of all concerned, stockholder-members, staff members, managers and directors alike, and not least of the old company itself, which holds our loyal duty as part of His Majesty's Merchant Navy.

Last Year a Peak Year

It is not very wise to try to be a prophet. If right, one gets no thanks; if wrong, the prophecy becomes one's mustard plaster—not that so excellent a corrective isn't good for all of us sometimes. However much a man may think he knows, he will always be a bit the wiser if he remembers history. The wise man of Ecclesiastes didn't think much of prophets. He may have been quoting the wisdom of Solomon when he wrote—"A fool also is full of words: a man cannot tell what shall be; and what shall be after him, who can tell him?" It might be sensible, I suppose, to rest on that comforting remark about prospects, but I cannot help feeling that on this occasion I owe it to the

members to risk the mustard and venture my present thoughts.

We have just completed the first quarter of the 1951 trading and the indications are that 1950 will prove to have been a peak year. In the present circumstances of our trades, I anticipate that the operating surplus in our consolidated profit and loss account for 1951 will be down from the comparable surplus of 1950. This is not to suggest that we are disturbed by that prospect and our managements and staffs are striving to promote all feasible economies. Our aims—preserving the interests of the stockholder-members, watching those of our staffs, and replacing our tonnage to serve the Cunard Company's future as well as that of our island home—are unchanged. We are watching the stepping stones.

In our sea business there are all the risks attendant on trading abroad with the open competition of the world coming up on our quarter and as well there are now looming risks which attend a home economy unsuitable for an island nation and planned by folk who do not seem to have much, if any, regard for history. For instance, I do not think anyone through the centuries has ever prophesied that the British people, so completely dependent on world trade and travel, would restrict themselves from freedom to travel to the degree at present in vogue, and from liberty to pay their way abroad at will. Unfortunately, too, there is another school who sprinkle their philosophy with urgings to each other that Britain will live all the better when the trade and belongings abroad by which the British get so much of their living, have been handersnatched by someone else. This philosophy, alien to British history, seems not unlike the patter of a prestidigitator, who removes a man's braces on the stage without his knowing it and leaves the victim clutching his trousers.

£15 million in Taxes in Four Years

The tax items in our consolidated accounts for the last four years amount practically to £15,000,000—too large a sum to be extracted before realistic provision is made for replacing the worn-out tonnage. Must it indeed be that so large a proportion of the labour expended on British ships by the countless hands that build, sail and cherish them shall be remembered only to have gone as dust with the wind, leaving nothing even to mark its going, like the imagery of Solomon in his *Wisdom* (Ch. 5, vv. 9 to 14)?

Let us mark well the foresight of all who have gone before us and the devotion of all now with us—the teamwork which runs this young-old company. Thus in each of our trades have ships been built to be proud of and to win humble pride in their sailings and their service. Our larger ships may take five years or even more to plan and build. Built by British hands skilled in the shipwrights' arts in whatever shipyard it may be, they sail out and home again a lasting asset to our country to focus and to foster commerce from round the world to all the ports of Britain—a hub of Commonwealth. Is not this a finer concept to engage our hard-won fruits of trading than to tip them in a sandstorm of devaluation and taxation into an economic waste-bin borrowed from the days of John the Good?

Third World Petroleum Congress

At the third World Petroleum Congress, which opens at the Hague on May 28, several papers dealing with tankers will be given. Mr. John Lamb and Mr. R. L. Brown, in a joint paper, will discuss the design of the tanker, while Messrs. Coutaud and Dechènes will describe the new harbour facilities of Marseilles, Lavéra and Le Havre, which are being built for tankers of up to 45,000 tons capacity, with the most modern equipment to eliminate as much as possible the principal causes of delays. In a paper by Mr. E. Stokoe the difficulties and delays of tankers discharging in smaller, inefficiently equipped harbours will be brought forward, especially in view of multigrade cargoes. Uniformity in all matters of discharging is advocated. The transport of liquid fuels by tankers and other vessels on rivers and canals in Western Europe is discussed in a paper presented by Mr. F. C. Haanebrink, with particular reference to international transport regulations.

MERCANTILE MARINE SERVICE ASSOCIATION Need for Long-Term Replacement Programme

THE annual meeting of the Mercantile Marine Service Association was held in Liverpool yesterday. The 94th annual report, which was submitted to the meeting, pays tribute to the collective bargaining system of the National Maritime Board, which recently completed negotiations resulting in pay increases calculated to cost the shipping industry millions of pounds.

Dealing with shipping prospects, the report stated that while a feeling of optimism prevails about future employment, it was felt that the industry is governed by the short-term view and that little is being done to establish the industry on a basis which will enable it to stand firmly on its feet in more normal times. With one-quarter of the dry-cargo tonnage over 20 years of age and nearly one-seventh of it over 25 years old, there was the danger of an unbalanced fleet. The present artificial conditions may account for the reluctance of some shipowners to order new tonnage, but it may not be possible for owners to do so owing to the heavy taxation system which will not allow them to set aside the necessary capital for replacements. In this connection, "the Government may be inflicting serious harm on the industry, for although the shipbuilding yards of the country may be reasonably busy with tanker orders, there is nothing like the same activity in regard to dry-cargo vessels, so important to the British shipping industry." The report regretted that the Tucker Committee did not recommend that relief which the industry must have if it is to maintain its competitive efficiency. "It is clear that the serious deficiency in the provision for depreciation of assets which shipowners are allowed to deduct in arriving at their taxable profit is threatening the competitive existence of the Merchant Navy." Without much greater relief it was difficult to believe that the shipping industry would be able to consider ordering new tonnage to the extent needed.

Foreign Competition in the Coastal Trade

Attention was drawn to the severe competition in the U.K. coastal trade. No objection was taken to the principle of competition, but it was felt that unequal conditions prevailed in ships engaged in this trade, resulting in many foreign ships securing an unfair advantage through substandard conditions and wages. Failing international agreement on pay and manning scales, it was felt that minimum freight rates should be established. In an effort to minimise one aspect of this unfair competition, the Association had agreed to the extension of the home-trade limits during the summer. This agreement, subject to certain safeguards, was necessary to ensure that British coasters would not be laid up while foreign competitors, not subject to the limitations of the Merchant Shipping Acts, were able to secure employment. The Council strongly recommended officers serving in coastal vessels to obtain their certificates, without which it would be difficult to improve conditions.

The manpower turnover in the industry continues at a high level and 38,085 seamen of all ranks were recruited, while 36,978 seamen gave up their employment. Nearly half of those recruited, however, had had previous seagoing experience. In the case of ships' officers there was a net loss of 872 over the year. That is to say, 2,288 officers left the sea but there were only 1,416 recruited as replacements. Ever since the war there had been a steady reduction of the numbers of certificated officers going to sea, and it was permissible to wonder how much longer the industry could stand this withdrawal of key personnel.

Attention was again directed to the prevention of tuberculosis among seafarers. The extent to which tuberculosis exists among seafarers today was not known, but it was believed that the disease flourishes under shipboard conditions. It was suggested that the adoption of mass radiography for all serving seamen would provide immediate relief from the menace of this scourge. The number of seafarers (203) who lost their lives on board ship in 1950 was the lowest total recorded since statistics were first collected.

The passenger and air services department of James Burness & Sons, Ltd., is now at 7 Kingsway, London, W.C.2. The telephone number remains unaltered at TEMple Bar 1001.

Due to the Borough of Swansea reconstruction plan, the address of the district office and Mazda trade counter of the British Thomson-Houston Co., Ltd., has been designated 12-13 The Kingsway. The telephone number remains unaltered at Swansea 2151/2.

Ministry of Transport Losses on Ship Operation

The commercial shipping operations of the Ministry of Transport during the year ended March 31, 1950, showed a net loss of £959,974, compared with a loss of £647,802 in the previous year. The operations cost £5,591,076 and produced £4,631,102. The major part of the loss (about £540,000) was incurred through the continued operation of ships originally chartered to carry timber for the Board of Trade, while a further loss of about £47,000 was due to the operation of Baltic-type coasters. Thirty of these vessels were bought in 1947 at a high price although they were known to be expensive to operate, because the tonnage was considered to be essential for the coal and timber trades. A further loss of £1,176,537 on the sale of the ships has been written off. In his report the Comptroller and Auditor-General stated that by April, 1949, 17 were sold at an average of £500,000 each, a little less than half-price, less depreciation, and between May, 1950, and February, 1951, the remainder, some of which were in need of substantial repair, were sold at an average price of £300,000. In accordance with the policy of withdrawing from commercial operations as soon as possible, 19 ships were sold, leaving 32 still owned, and only about a dozen requisitioned ships, the ownership of which is in dispute, would remain in Ministry service.

Dock Improvements on the Clyde

A committee of four shipbuilding and marine engineering experts has been appointed by Greenock Town Council to report on the proposals for widening the Great Harbour to act as a fitting-out dock for naval and commercial vessels. The committee consists of Mr. Robert Greer (Kincaid), Mr. A. H. White (Lithgows), Mr. Horace Willson (Hamilton) and Mr. Ronald (Scott's) Shipbuilding. They will prepare a memorandum and make proposals which the Council will study before making representations to the Admiralty. Mr. Robert Greer broached this subject at the Chamber of Commerce recently, pointing out the danger that Greenock would lose valuable marine engineering and fitting-out work unless provision was made for vessels of a beam greater than 70 ft. In Glasgow, Barclay, Curle & Co., Ltd., are to extend their No. 2 dry dock at Scotstoun by more than 30 ft. When completed this dock will measure 633 ft. by 85 ft. with 24 ft. depth. This extension is designed to meet the needs of the much larger tankers and cargo liners now being built on the Clyde and will ensure adequate facilities for continued service.

Holland America Line in 1950

The deterioration of the international position in 1950, as well as the international rearmament race, have had a beneficial effect in the Holland America Line's affairs in the past year. The accounts for the year under review show a satisfactory picture. After providing for taxation the gross profit amounted to Fl.28,850,000, an increase of more than 40 per cent over the gross profit of Fl.20,190,000 recorded for 1949. After meeting various commitments including depreciation (Fl.5,360,000 compared with Fl.5,250,000 for 1949), and after allocating Fl.15.4 mn. (10 mn.) to replacement reserve and Fl.4 mn. (1.25 mn.) to the reserve for other building purposes, as well as one million (Fl.700,000) to the pensions fund, there remained a net profit of Fl.3 mn., against Fl.2.91 mn. in 1949. A dividend of 9 per cent (same) was paid on the share capital of Fl.30,940,000 (slightly increased from Fl.29,520,000 as at the end of 1949). Of the dividend 4 per cent has been paid in cash and the balance in the form of shares. At the end of 1950, the company's fleet consisted of five passenger vessels and 27 cargo ships totalling about 320,000 tons gross. Two vessels of 14,500 tons gross each were building. The *Delftdijk*, which struck a mine in January 1950, is being converted into a refrigerated vessel with accommodation for 35 passengers. The demand for passenger accommodation and cargo space from Western Europe to North America, Cuba and Mexico soared considerably during the year under review. In the reverse direction, however, a slight regression was noticeable.

The 1951 edition of the Catalogue of Admiralty Charts and other Hydrographic Publications is available. It is a volume of over 40 index chartlets, and over 200 pages of chart lists including lists of Decca and Loran lattice charts, low-priced instructional charts, and a variety of navigational diagrams, and tidal stream atlases, etc., as well as lists of the Sailing Directions (Pilots), and of the volumes of the Admiralty List of Radio Signals, Light Lists, Tide Tables, Distance Tables, etc.

ALUMINIUM IN THE FISHING INDUSTRY

A REVIEW OF RECENT APPLICATIONS AND SERVICE

ALUMINIUM ALLOYS have been used for a number of years in trawlers and for some time it has seemed desirable to collect data in connection with maintenance and the suitability of aluminium under service conditions, particularly as the fishing industry is one which probably gives as severe a test as any to ships and the gear used. Deep sea trawlers may have to steam as much as 3,000 miles on a single trip and the actual fishing is often carried out in the Arctic Circle under very bad weather conditions. Great emphasis is laid on the trawler's ability to maintain regular voyages with the minimum period in port for repairs and maintenance and the fish must be landed in the best possible condition. A most interesting review of experience with aluminium alloys in trawlers is contained in the current issue of *The Aluminium Courier*, contributed by Mr. James Venus, naval architect to the Aluminium Development Association.

In the actual trawling gear aluminium is often used for the floats which are attached to the headline to hold the mouth of the net open. These floats are usually of cast aluminium and have to withstand severe corrosive conditions and a considerable amount of wear and tear, as the net is shot every two or three hours over a period of several days. When the net has been hauled on board the floats may be dragged up the steel side of the ship and dropped on the deck, and experience today has shown that aluminium is well suited to this application.

After the fish is sorted on deck it is stowed in the fish hold. Normal practice is that the fish hold is lined with tongued and grooved wooden boards and there may or may not be insulation between the ship's side and this lining. Then the hold is divided off, both vertically and horizontally, by means of pound boards, splitting off the hold into small compartments in which the fish is packed in ice. A large trawler may carry about 3,000 pound boards and normally these are wood about 4 ft. by 8 in. by 1½ in. In several trawlers the holds have been lined with aluminium sheet in place of the tongued and grooved wood lining and the pound boards are aluminium extrusions, and although this installation is considerably more expensive in the first instance it has the following advantages:

1. Under similar conditions a trawler with an alumi-

nium fish hold will land a better quality catch than a ship with a wooden fish hold this is mainly due to the fact the aluminium hold can be washed down much more efficiently than a wooden hold, and the aluminium will not harbour bacteria in the same way as wood. As a result the trawler owner can expect to obtain a better price for his fish.

2. The wooden pound boards, although considerably cheaper, have to be replaced at a much higher rate, which may be in the region of 100 boards per trip. The aluminium boards have shown themselves as being well able to withstand the very severe handling which they receive, and on a particular trawler the total number of replacements over a period of 18 months was only 25.

The general public tends to associate trawlers with the little wooden fishing boats they see at the seaside resorts, and few people appreciate the complexity of design in the modern deep-sea vessels which are operated from the major fishing ports of Hull, Grimsby, Fleetwood and Aberdeen. The radio, radar direction finding and echo sounding equipment is in excess of that normally carried by a 10,000-tons ocean-going steamer and the weather conditions can be just as severe as those experienced in an Atlantic crossing. The standards of accommodation have improved tremendously. Plant for the production of fish liver oil and sometimes fish meal may have to be carried, while refrigerated equipment, even quick freeze plant, may be installed. The requisite space for all this gear generally means an increase in the size of deckhouse capacity, if this is not to be achieved at the expense of fish hold capacity.

Modern trawlers require higher speeds and this in turn means a larger engine room. When it is considered that all this may have to fit into a vessel about 180 feet in length it would be appreciated that the trawler designer has complex problems. Aluminium can help in this respect, in that when it is used for deckhouse construction it will help to overcome any stability problems which may arise, and where an extra tier of deckhouses is required to give a better conning position because of the excessive sheer and flare of the bows aluminium produces the answer. It is also used for radar towers, and it is probably worthwhile considering its use for at least the mizzen mast.

COLD PRESSURE WELDING

THE G.E.C. PROCESS FOR LIGHT ALLOYS AND OTHER NON-FERROUS METALS

COLD PRESSURE welding was developed in the research laboratories of the General Electric Co., Ltd., in 1946 and has since created worldwide interest as a new metallurgical technique. The process is one of joining metals by means of homogeneous welds produced solely by pressure at room temperature. Neither electricity nor heat are necessary and no flux, chemical or gas is used. There is nothing to be cleaned away from the welded joint in the nature of scale, and the process can be carried out by an unskilled operator after receiving instruction.

Generally, no special machines are needed beyond those commonly found in industrial machine shops, and the tools required are not of an extremely expensive character, though they have to be made to normal tool-making standards. It is, therefore, possible to introduce cold pressure welding into many manufacturing plants with a minimum of changeover, dislocation, or expense. Technique centres round the fact that if metals are forced to flow under substantial pressure, it is possible to get the molecules of separate pieces into such intimate contact that they unit and pieces will flow together at their surfaces to form a perfectly homogeneous whole. In fact, they will form a true weld in the strict sense that the engineer knows it,

with the advantage that there is no introduction of a second metal or alloy.

The process might be likened in an extremely generalised way to the squeezing together of two pieces of putty. Metals, however, have a crystalline structure, each crystal having an entity of its own, and it is, therefore, clearly not easy to produce that intimacy of contact which is necessary if true welding is to take place. By adopting the correct methods, however, it is possible to achieve success with most of the common non-ferrous metals and alloys. Some are much more difficult to weld than others and the degree of success varies, though this is largely due to the fact that considerably more development has been expended on certain metals and alloys.

The highest degree of success so far achieved in cold pressure welding has been with aluminium and copper. It is possible, however, for the technique to be used with a substantial degree of success for many aluminium and copper alloys, cadmium, lead, and nickel; also for combinations of these metals, e.g., aluminium to copper. There is theoretically no limit to the form or thickness of the metals, and foils can be welded as easily as thick sheets or plates. Cast, drawn and stamped parts can also be welded, and it is

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quite possible so to design a part that it can be formed and welded in a single operation. Thick parts can be joined to thin and openwork materials, such as "exanded" metal or gauze, can be welded to themselves or to solid metal.

The strength of the cold pressure welded joint, as with any other kind of joint, depends on its design, but in general terms it will be comparable in strength to joints produced by orthodox electric spot welding, riveting or soldering. Once a joint is made, there is nothing that is likely to cause it to fail, except those circumstances which would cause solid metal of the same shape and section to fail. Neither age nor the ingress of chemical will cause a change, in fact it is impossible for foreign materials to enter the joint. This gives cold pressure welding a very distinct advantage where fluid-tight or gas-tight assemblies are required. The cold pressure welding of parts causes their cross section to change, but at the same time the metal becomes work-hardened and, therefore, if care has been taken in the design of the joint and the weld, the composite member will have a perfectly satisfactory degree of strength.

Electrical Conductivity

Because aluminium and copper are very suitable materials for cold pressure welding, the question of electrical conductivity becomes important. In general, however, it can be stated that the conductivity (specific resistance) of a cold pressure welded joint in aluminium will not be less than that of a solid aluminium member of equal cross section. The work-hardening which occurs may have a slight effect on the conductivity of a welded joint, but any such effect can be allowed for in the design of the joint and weld. It is quite easy to obtain joints of a lower ohmic resistance than an equivalent length of the parent conductor. An important aspect of cold pressure welding, from the point of view of electrical engineering, is that some dissimilar metals can be welded and the resultant joints will have a low and consistent electrical resistance. Because such joints are created by a perfect weld, the electrical resistance cannot change because of oxide films, moisture, corrosion, etc.

To obtain really good welds with the lowest degree of pressure and change of cross section of the material, there must not be the minutest amount of foreign material on the two mating surfaces. In fact, if such material exists at points at the interface the weld will not take place at and round these points. This implies that there must be a careful but by no means difficult preparation of the surfaces to be welded, so that ideally they are of virgin metal without any surface film. This requirement would at first sight appear to make the welding of aluminium extremely difficult because it is a well-known fact that a film of oxide begins to form on aluminium immediately a fresh metal surface is exposed to the atmosphere. In its final form, after a matter of days, the film is still very thin but it is, nevertheless, sufficient to reduce the weldability. By suitable treatment, however, a weldable surface can be produced which will remain in usable condition for 24 hours. Handling with damp or greasy hands will, of course, spoil surfaces, but once they have been properly prepared, parts can receive reasonable handling without any special equipment or degree of care. For example, after cleaning they can be stored in trays and covered with paper to keep dust from settling on them and will be quite satisfactory providing that they are not left too long or the operator in picking them up for welding does not soil the surfaces. An important feature of cold pressure welding is that indifferent welds are impossible. If the surfaces are in a properly cleaned condition and the press setting is correct, a perfect weld will result, but if there is any degree of contamination the parts will not weld and the operator will know at once. This means that the inspection of welds can be greatly simplified.

An Essential Condition

The only essential condition for a weld to take place, beyond the correct preparation of the surfaces, is that the metal shall be caused to flow by a minimum amount. This latter condition largely determines the design of the joint and the tools necessary to produce it. The pressure required per unit area for a successful weld is obviously above the flow point of the metal, but there is considerable latitude though it is undesirable for an excessive pressure to be used since it results in unnecessary changes in the cross section of the joint. It is interesting to note that there is a great degree of latitude in the rate of application of pressure, with regard to the quality and strength of the weld, and a slow squeezing is as effective as a fast one. With regard to the absolute pressures involved, this will depend on the metal and the thickness to be welded. For some applications, it is possible to use a hand tool of the toggle cutters type and quite heavy work can be done with

an ordinary fly press. It is only the largest sizes of work that require a power press.

In general there are four main types of weld suitable for use on solid material, with intermediate or combination types for special cases. The four types are: roller weld, ring weld, plain weld and wire weld. For the roller weld the prepared parts, foil, sheet, plate or strip are passed between rollers which exert the required pressure. In some cases it is possible to devise combination rollers which will form tubing from strip, weld the seam and trim away the surplus material so that there is a minimum projection from the circumference to show where the weld has taken place. The ring weld is used when it is desired to make any type of perimeter joint such as joining discs, squares, hexagons, etc., at the edges or for closing an orifice by means of a cap. This method is suitable for hermetically sealing a container. The plain weld is a widely used type of weld and is formed by overlapping two pieces of metal and welding them at one or more points where the two faces meet. The joint may be in the form of a series of spots or a continuous seam. Examples of this type of weld occur in box making and the fabrication of large structures from a series of small parts. Wires can be welded by the cold pressure process by using a particular form of the overlapping technique. The resultant joint is nearly as strong as the plain wire and has a lower electrical resistance because the cross sectional area increases slightly. Joints made in this way remain cool with the passage of electrical current because they have a lower resistance than the plain wire. In any case, heating would not affect the mechanical quality of the joint, as tests have proved that when heavy currents are passed through a cold pressure welded joint in wire the plain wire will always fuse in advance of the joint, assuming, of course, that the latter is made with the proper technique.

Design of Tools

It is not possible to give precise information on the design of tools, as every case must be dealt with in the light of several factors and it is on the matter of tool design that the G.E.C. has had considerable experience both with regard to the form of the tools and the best tool materials. For the latter there is considerable latitude and in many cases it is not necessary to use hardened tool steels. Dies for commercially pure aluminium can be made from mild steel or from unhardened chrome-manganese tool steel. It is, however, desirable to avoid tungsten or molybdenum steel for the welding of aluminium. The wear is small with cold pressure welding and in most cases can be offset by the occasional resetting of the tool or press. In all cases, however, the capital cost of a properly designed die is small having regard to the large number of parts which it will weld before it has to be remachined.

Cold pressure welding applications embrace every field of manufacturing, but for an initial survey in any plant the operations involving the joining of copper and aluminium, to themselves or each other, should receive first consideration. Other metals can be welded, but it is thought probable that copper and aluminium are likely to provide the most scope for application and development at this stage. Welding by pressure alone enables work to be undertaken which would otherwise have to be avoided on the grounds of expense or because of a shortage of skilled welders or suitable welding plant. Structures such as boats, bridges, ladders, frameworks, car bodies, etc., can be built up piece by piece and this is useful for "one off" working or for experimental structures. When carrying out work of this nature the fact that no special plant is required is valuable. The process is described and illustrated in a booklet entitled *Cold Pressure Welding*, recently published by the General Electric Co., Ltd.

Standard Aluminium Sections

The British Standards Institution has issued a revision of B.S.1161, "Aluminium and aluminium alloy sections" (price 3s. post free). The standard, which was first published in 1944, has now been extended to cover additional sizes of aluminium alloy sections and to include sections made for incorporation in designs, and most manufacturers are in a position to supply almost the full range. It may, however, be some time before some of the manufacturers can supply all sizes. Many suppliers are able to make larger sections than those given in the table, but it is not yet practicable to standardise these. The sections covered in the new edition are as follows:—

Equal angle sections ...	1 in. by 1 in. to 9 in. by 9 in.
Unequal angle sections ...	1½ in. by 1 in. to 12 in. by 6 in.
Channel sections ...	3 in. by 1½ in. to 12 in. by 4 in.
I sections ...	3 in. by 1½ in. to 12 in. by 6 in.
Tee sections ...	1 in. by 1 in. to 9 in. by 9 in.

About Aluminium... 2

ALLOYS

In this series of articles we deal very briefly with those characteristics of aluminium that are important to the student, believing that although the light metal is now second only to steel in structural significance, its nature and behaviour are not, perhaps, correspondingly known.

CHEMICALLY pure aluminium is soft, ductile and of little structural value but, as extracted, it normally contains up to $\frac{1}{2}\%$ impurities, mainly iron and silicon. These have a marked effect on the properties of the metal, so that, with the further hardness acquired during rolling, "commercial purity" aluminium has a useful degree of strength and is widely produced in sheet form.

In the early years, however, casting was the principal outlet for the metal, and, without the benefit of work-hardening, strength and good foundry characteristics were sought by alloying, which was soon applied to the wrought forms. Alloying in itself provided a moderate improvement in properties, but the discovery, about 1909, that heat treatment could raise the strength of certain alloys far more than could work-hardening, while retaining a fair ductility, marked the real entry of aluminium into the structural field. This treatment was applied to rolled, extruded and cast alloys, enabling them for the first time to compete with structural steel on a strength basis. Today, a wide range of alloys is available to meet the varied needs of industry, each having been developed for its particular combination of properties.

The alloying elements that are now used include copper, magnesium, silicon, manganese, zinc, and nickel; chromium, titanium, cadmium, columbium, cerium, tin, lead and other metals are also employed in small quantities. The effect of these additions is generally to increase the strength and decrease the ductility of the commercially pure metal, but ease of fabrication, corrosion-resistance, and other characteristics are affected by their presence, singly or in combination.

The composition suitable for a wrought (rolled, extruded, or forged) aluminium alloy seldom fits it for casting, owing to the completely different conditions of manufacture. Casting alloys have therefore developed along separate lines, and it will be found that all aluminium fabricators offer these two main groups of alloys, wrought and cast, with distinct nomenclature systems.

Wrought Alloys

There are two major classes of wrought alloys. In the first, strength is invested by the work-hardening that results from

distortion of the structure of the metal during the mechanical shaping processes of manufacture. In this class are commercially pure aluminium and the alloys containing, singly or in combination, manganese, magnesium and silicon. The desired degree of strength and hardness is achieved by controlling the amount of working during fabrication, and the metal can be fully or partly softened at any stage by annealing (at 350–400°C).

Work-hardening alloys can be given quite high strength (especially those with high magnesium content) and are generally cheaper than those requiring heat treatment. They are used for building and other constructional purposes, in hollow-ware, in packaging, and in general sheet metal work.

In the second class are the heat treatable alloys, in which copper, magnesium, zinc and silicon are important constituents. These alloys make it possible to use aluminium in many instances where the work-hardening type would not do. Some loss of ductility is inseparable from a gain in strength by cold-working, so that the more fully strain-hardened materials will not tolerate much forming

but the temporary softness of the heat treated alloys gives an opportunity for severe forming with assurance that the full properties will be attained before the part is put into service.

Casting Alloys

Satisfactory casting in aluminium demands that the metal should flow readily to all parts of the mould; that, on solidifying, high shrinkage and low hot-strength should not produce fractures; and that the cast structure should be sound. These considerations decide the choice of alloying constituents as much as do strength requirements. Silicon is used in some alloys to enhance the castability and to reduce thermal expansion in service (important in pistons); copper, magnesium and the other elements are used, singly or in combination, to develop particular characteristics, such as susceptibility to heat treatment, good high temperature properties, and corrosion resistance.

Although it has been possible only to outline the complex subject of alloying, it will be seen that aluminium is largely dependent on this technique for its engineering value and that the choice of the right alloy for each task is very necessary. The third article in this series will be concerned with heat treatment.

MAIN ALLOYING ELEMENTS	CHARACTERISTICS OF GROUP	AN EXAMPLE OF THE GROUP WITH ITS TENSILE PROPERTIES			
		NOMINAL Designation	1" Proof Stress tons sq.in.	Ultimate Stress tons sq.in.	Elongation on 2 in.

WROUGHT ALLOYS

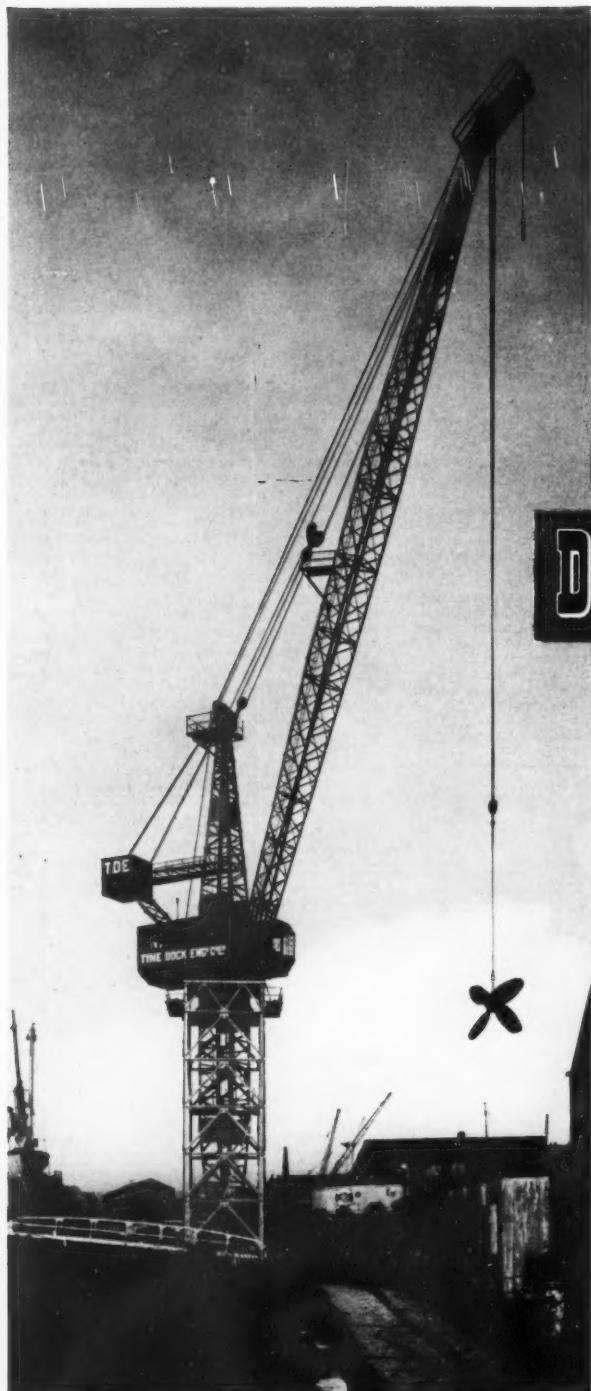
Mn 1 to $\frac{1}{2}\%$	A work-hardening alloy in wide use for building, packaging and hollow-ware.	3S 1H $\frac{1}{2}\%$ Mn	8 $\frac{1}{2}$	9 $\frac{1}{2}$	9
Mg 2 to 7%	Strong, tough, work-hardening alloys; exceptional corrosion resistance.	A568 1H 5% Mg	17 $\frac{1}{2}$	22 $\frac{1}{2}$	11
Cu $\frac{1}{2}$ to 5%	Heat treatable, widely used in aircraft and other stressed structures. Fair corrosion resistance, often improved in sheet by coating with pure aluminium (Alclad).	24S WP 4% Cu $\frac{1}{2}\%$ Si $\frac{1}{2}\%$ Mn $\frac{1}{2}\%$ Mg	26	31	9
Mg $\frac{1}{2}$ to 1%	Heat treatable, less strong than the copper group but easier to produce and form. Better corrosion resistance.	51S WP 1% Si $\frac{1}{2}\%$ Mg	18	20	13
Si $\frac{1}{2}$ to 1%	Heat treatable, difficult to produce and confined to aircraft and other structures demanding the highest possible strength weight ratio.	C77S WP 7% Zn 2% Mg 1% Cu	38	42	11

CASTING ALLOYS (Chill-cast test bars)

Si 5 to 12%	Easily cast with good pressure-tightness, and heat treatable when magnesium is present.	12S WP 5% Si 1 $\frac{1}{2}\%$ Cu $\frac{1}{2}\%$ Mg	16	19	2
Cu 4 to 10%	Heat treatable alloys with good machining properties.	22S WP 4% Cu	24	27	5
Mg $\frac{1}{2}$ to 10%	Exceptional corrosion resistance, shock resistance, and machinability.	31S W 10% Mg	13	21	18

NORTHERN ALUMINIUM COMPANY LIMITED

TECHNICAL DEVELOPMENT DIVISION • BANBURY • OXON



Radius 95 ft. . . .

lifts 15 tons . . .

and the major part is

DURALUMIN

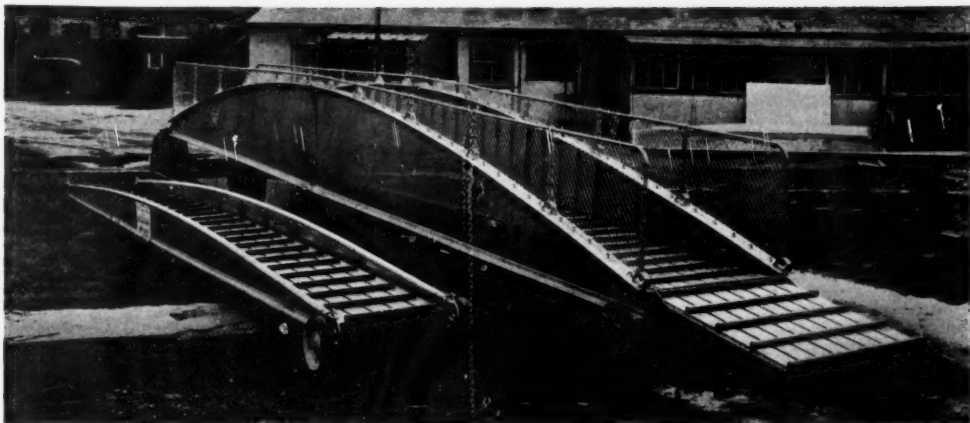
REGD. TRADE MARK

"Duralumin" light alloy is used for the major part of this 15-ton electric monotower crane, just completed by Butters Brothers & Co. Ltd. of Glasgow. The jib has a total length of 160 ft., the upper 130 ft. being in "Duralumin". Dimensions at mid-section are 7 ft. 3½ ins. by 6 ft. 0 ins., and the main members are 6 x 6 in. angles (BS.1161). Radius of action is 95 ft.

By the use of "Duralumin" the stresses due to the weight of the jib itself have been very considerably reduced.

For this remarkable project "Duralumin" S was selected; but this is only one of a series of light alloys manufactured and marketed solely by James Booth & Co. Ltd. of Birmingham.

BOOTH
BIRMINGHAM



One of the special gangways for the Festival ship *Campania*, with a typical shore gangway for ship use

Light Alloy Gangways

Special Designs for the Festival Ship "Campania"

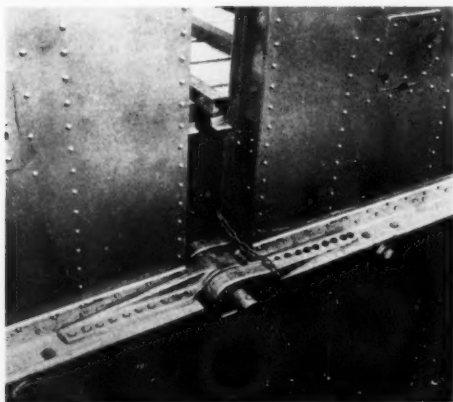
FOR THE past three years Whittingham & Mitchel, Ltd., of Byfleet, Surrey, have been constructing gangways in aluminium alloys. These have been supplied to tanker companies for whom the light metal offers perhaps its greatest advantages. The actual size of these gangways has averaged 30 ft. in length, having varied from 24 ft. to 35 ft., and in practice it has been found that they are rather less than one-third the weight of their wooden counterpart. Aluminium's non-sparking property is of special value in the presence of oil, as, of course, is the non-soakage of metal in general, and thus the inherent danger of the highly inflammable oil-soaked wooden gangways is eliminated.

The latest production in this series is a considerable advance on earlier designs, being of much larger dimensions. Destined for the Festival of Britain Ship *Campania*, it has an overall length, with ramps, of 52 ft. and a clear inside width of 4 ft. The gangway portion itself is 40 ft. in length. The recommended alloys for marine uses—those in the magnesium-containing group—were used throughout, the metal being supplied by the British Aluminium Co., Ltd. The sheet and plate are in BA.21 (NS4), section in BA.25 WP (HE10-WP) and castings in DTD.165.

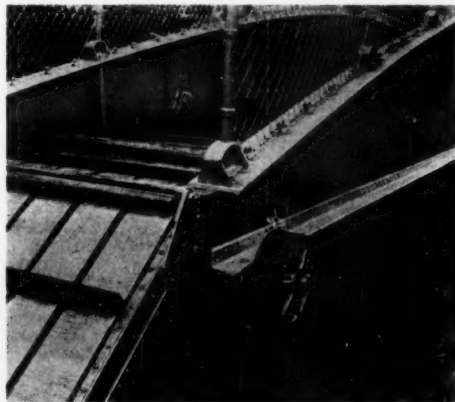
Construction has been simplified and heavy sections cut down to the minimum. The two sides are made up as I-beams which are the main strength members. The booms

are in 6 in. by 2 in. T-section made to the builder's special requirements and form the top and bottom of the beam. Sheet in 10 s.w.g. forms the joining member, being stiffened at 4-ft. intervals by angle sections formed from 10 s.w.g. strip with secondary 12 s.w.g. stiffeners interspersed between. The floor is laid on Z-beams, also made up from strip, at 12-in. intervals, with extra strengthening every 4 ft. coinciding with that of the side beams. The floor itself was also made up from strip by the builders themselves and is in 16 s.w.g. on the gangway itself and 14 s.w.g. on the two ramps with wooden slats at 10-in. intervals. The hand rail is in BA.25 tubing from which hangs galvanised steel wire mesh. The whole structure is riveted, using magnesium-containing aluminium alloy rivets. Special mention must be made of the manner in which the two 20-ft. sections on this gangway are joined. The casting, in DTD.165, was produced to a fine tolerance by Non-Corrosive Metal Products, Ltd., and required no machining. The actual joint pin is in stainless steel.

Four such gangways have been built and all who visit the *Campania* during the summer will have an opportunity of inspecting not only this piece of fine workmanship, but another product of this company—the "Flying Fifteen" racing yacht which was described in *THE SHIPPING WORLD* of February 7 last, and which will be among the boat-builders' exhibits on board.



Aluminium alloy castings used at mid-length of the gangway



View showing one end of the Whittingham & Mitchel aluminium alloy gangway for the "Campania"

COAL AND OIL

THE NEW BUNKER COAL PRICES

AS REPORTED briefly on this page last week, bunker coal prices in the United Kingdom have been raised by the National Coal Board. This brings them in general into line with the new prices for coal exports and domestic sales. The Coal Board has lost little time in passing on to the consumer the increased costs which it has had to bear since the recent increase in rail freight rates. In view of its financial position, however, it cannot altogether be blamed for doing so. The new bunker prices are just about the same, throughout the country, as those of the cheapest grades of export coal, one or two differences in individual cases having been removed. As with the recent increases in oil fuel prices, the rise in the price of coal bunkers would cause the shipowner more concern if it were not for the fact that the traditional importance of the fuel bill in the economics of ship operation has been considerably reduced by the changed conditions of today; when the time that a ship spends in port increases as much as it has done in the last decade, the place occupied by running costs at sea in the total bill must obviously be less.

Film of the Fawley Refinery

AN OPPORTUNITY was given to the Press last week to see the second part of the film which is being made by the Esso Petroleum Company to record the construction of their new refinery at Fawley. The first part of the film showed principally the work of clearing the site and the laying of foundations; the new part takes the viewer up to the beginning of this year, and is perhaps the most interesting in that it covers the erection of most of the major components of the refinery. Work on the marine terminal of the jetty is progressing satisfactorily, and it is expected to be ready to receive tankers by October. On account of the soft nature of the foreshore, it has been necessary to build a causeway a mile long, stretching from the refinery itself out into deep water. The jetty at which the tankers will berth forms, with the causeway, a letter T. It will be 3,200 ft. long, and will provide four berths for ocean-going tankers and one for coasters. The berthing system is being designed for tankers of 26,000 tons deadweight, but it is under consideration to increase the spacing of berths so that vessels 700 ft. long can be accommodated. The depth of water is

36 ft. L.W.O.S.T., which would be sufficient for larger vessels. The contract for the marine terminal is being carried out by Christiani & Nielson, Ltd. The refinery as a whole should be completed by the end of this year. It will handle 6,750,000 tons of crude annually.

The Shell Exhibit at the B.I.F.

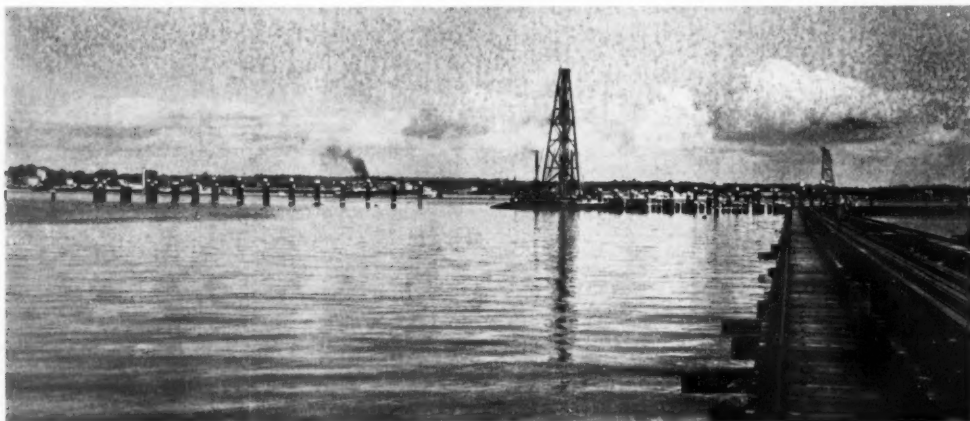
SHELL'S EXHIBIT at the B.I.F. this year embraces the whole range of Shell products. Chemicals, fuel oils, lubricating oil, bitumen and aviation products and many others are represented in a comprehensive exhibit, the main feature of which is a cinematographic representation of the action taking place in the catalyst chamber of a catalyst cracking unit used in the manufacture of high quality gasoline. The model catalyst chamber, which is superimposed upon a photograph of the cracking plant, has three windows at different levels through which films show what happens inside. The sequence of molecular refashioning that goes on in the chamber can thus be appreciated by the viewer. Five large photographs of refinery and chemical plant form the background both to attractive displays with many models, and to a large circular case in which are shown hundreds of samples of the products which Shell markets in Great Britain. Shell's worldwide activities are shown on a large map giving the geographical dispositions of oilfields, refineries and chemical plant, tanker routes and bunker stations, research stations and marketing areas.

OFFICIAL NOTICES

New Companies

THAMES PASSENGER SERVICE OWNERS' ASSOC. (HOLDINGS), LTD. Registered April 13. To construct and work steamships, particularly water buses and ferry services, on and about the River Thames and Medway, etc. Nominal capital: £100 in £1 shares. Directors: Not named. Subscribers: M. E. P. Jump (solicitor) and F. W. Scott (clerk), 8 Lloyd's Avenue, London, E.C.3.

GREENHITHE TOWING CO., LTD., 66 Broad Street Avenue, London, E.C.2. Registered April 10. To carry on business of tug and barge owners, shipowners, etc. Nominal capital: £100 in £1 shares. Directors: C. Tester, Eventide, Ridgeway Cliff, Herne Bay, Kent; L. Tester, Sunnycroft, St. James Lane, Horns Cross, Greenhithe, Kent.
[Information from *Jordan's Daily Register of New Companies*]



Work in progress on the marine terminal of the Fawley refinery. The concrete piles for the jetty are 85 ft. long and 2 ft. 8 in. in diameter. The concrete is 5½ in. thick. They were all cast on the site



PASSENGER MOTORSHIP "BLENHEIM"

STRIKING DESIGN OF NEW VESSEL FOR OSLO-NEWCASTLE SERVICE

THE single-screw motorship *Blenheim*, which has entered the Oslo-Newcastle service of Fred Olsen & Company, is a remarkable example of modern ideas in naval architecture. Aluminium has been used to a great extent in the building of the vessel, being used for the whole of the bridge and superstructure above the boat deck, as well as for the combined funnel and mast, for the lifeboats and the lining of the refrigerated hold. The funnel, as the photograph above shows, is an unusual feature, being a radical departure from conventional design. The design has been tunnel-tested and it is claimed that all possibility of downdraught in any kind of weather has been eliminated. The hull of the *Blenheim* was built at Southampton by John I. Thornycroft & Co., Ltd., and after the launching was towed to Norway, where the ship was engined and completed by A/S Akers mekaniske Verksted.

The principal particulars of the *Blenheim* are as follows:—

Length overall	373 ft. 9 in.
Breadth moulded	53 ft.
Depth moulded to upper deck	29 ft.
Depth moulded to 2nd deck	21 ft.
Maximum draught	17 ft. 6 in.
Gross tonnage (approx.)	5,000 tons
Passengers:	
First class	101
Second class	100
Third class	36
Total	237
Propelling machinery:	
8-cylinder Akers-B. & W. crosshead diesel developing 4,600 i.h.p. at 135 r.p.m.	
Speed	16 knots

The *Blenheim* is built to Det Norske Veritas class +1 A1, with freeboard to a maximum draught of 17 ft. 6 in., to the Norwegian Ships' Control rules for passenger ships, and in accordance with the rules of the International Convention for the Safety of Life at Sea. The hull is shapely, with raked soft-nose bows and cruiser stern. The bows are decorated with a figurehead, in accordance with the owners' practice, depicting two women holding a laurel wreath. There are two continuous steel decks, with forecaste and elongated bridge deck also of steel. The double bottom also extends the full length of the hull, which is subdivided by watertight bulkheads. There are two holds and a tween-deck hold forward, accessible through two large hatches. The after hold is refrigerated for cargo requiring temperatures down to -20 deg. C. This hold is insulated and sheathed with aluminium on the Gregson system. The hatch of No. 3 hold is flush with the deck, allowing for roomy promenade space, and there are no masts or winches, as loading and discharging of this hold will be carried out by shore cranes.

Special attention has been paid to safety features in the construction and equipment of the vessel. All stairs between

decks are of steel, and all woodwork round fire bulkheads and in cabin walls is insulated against fire in accordance with the latest principles. Navigational equipment includes radar, Decca Navigator, echo sounder, electric log, radio direction finder, wireless telegraph and telephone. The wheelhouse is in telephonic communication with all parts of the ship and a complete public address system is installed. Patent self-levelling accommodation ladders were supplied by the Tyne Gangway Co., Ltd. The electro-hydraulic steering gear can be operated on compressed air in the event of an electricity failure, the changeover being effected automatically. An emergency dynamo on the top deck automatically comes into operation for lighting purposes in all alleyways, stairways and lifeboat stations in the event of the main generators being out of action. Emergency stairways have been arranged for use in case of fire, and the firefighting equipment is elaborate. The engine room is equipped with foam extinguishing apparatus and the holds with CO₂ apparatus, while a double system of fire hydrants provides water for deck use. The smoke detector system has a control panel in the wheelhouse.

Passenger Accommodation

The passenger accommodation is carried out on the most modern lines, and is ventilated and heated on the Thermo-tank Thermo-Reg system. Toilet spaces are served by a modified arrangement of the same system, with punkah louvres, these spaces being amply exhausted by Thermo-tank centrifugal exhaust fans. The officers', engineers' and crew's accommodation and public rooms are heated and ventilated by an arrangement of the Auto-Reg system which, by means of thermostats, controls the temperature. Accommodation for the captain, two wireless operators and the 2nd officer are situated on the bridge deck under the same roof as the chartroom and wheelhouse. At the forward end of the promenade deck, under the bridge, there is a large lounge, and at the after end of the casing on the boat deck is a large semi-enclosed verandah, protected by glass sides and roof, but completely open aft. On the deck below are the first-class smoking room, lounge, restaurant, bar and dining saloon, with the second-class smokers room, bar and entrance hall aft. The second-class dining saloon is situated on the upper deck aft, with the lounge on the port side. The interior decoration has been carried out to the plans of the Norwegian architect Arnstein Arneberg.

The first-class accommodation consists mainly of single-berth cabins, but there are also special suites on the upper deck. There are several bathrooms and toilet rooms on each deck, and there is also a Finnish steam bath with adjoining dressing room and shower. The second-class

(Continued on page 414)

BRITISH INDUSTRIES FAIR

A SURVEY OF SOME NOTABLE ENGINEERING DISPLAYS

THIS YEAR'S British Industries Fair, the 30th of its kind, takes full advantage of the opportunity afforded by the presence of visitors from overseas to the Festival of Britain to provide an unprecedentedly large exhibition of British engineering and industry. At the three centres of the B.I.F., at Olympia and Earls Court, London, and at Castle Bromwich, Birmingham, exhibits valued at approximately £10,000,000 are on display. The B.I.F. will remain open until 4 p.m. on May 11. The sections of the B.I.F. most likely to interest readers of THE SHIPPING WORLD are at Castle Bromwich, and brief notes on some of the exhibits are given below.

TUBE INVESTMENTS, LTD. (Stands D617/9 and D516/8).—These stands offer a cross-section display of the products manufactured by the precision steel tube, cold rolled metal sections and aluminium companies of the group. Apart from



Oldham series II emergency lighting unit

a show of the general range of seamless and welded tubes in steel, stainless steel and aluminium alloys, there is a special display of small-bore tubes. High-pressure cylinders, cold-rolled metal sections including nail-able steel joists, aluminium beams and girders, and tubular forgings are also displayed.

OLDHAM & CO., LTD. (Stand C414).—An important new addition to the range of this firm's products is featured on this stand. It is the new Oldham automatic emergency lighting system, designed to provide immediate and automatic changeover from mains to battery lighting in the event of a mains failure. This is effected by means of a specially designed automatic relay or contactor, which instantly connects the emergency lighting circuits to an electric supply from a stationary battery when a breakdown in the mains supply occurs. An important feature of the equipment is the provision of trickle charging to the stationary battery, which reduces its care and attention to a minimum, and maintains it in a state of full charge. Also on view is a selection of safety electric hand lamps and torches for industrial purposes, notably the "Tanka" safety hand lamp, approved by the Home Office for use in explosive atmospheres.

STEWARTS & LLOYDS, LTD. (Stands D511/408, B404 and D-Outdoor).—One of these stands is a tubular steel building divided into ten bays in which a comprehensive range of the company's products is on view. They include steel tubes and fittings for the conveyance of steam, air, water, etc.; examples of protective linings and sheathings; tubular steel coils; hot and cold rolled steel strip; foundry and basic pig irons; iron and steel castings; and a 24-ft. ship's derrick.

A subsidiary company, **TUBEWRIGHTS, LTD.**, is displaying typical jobs for cranes and draglines, while the mechanical handling equipment includes trolleys, crates, cargo trays and car-lifting gear. **THE VICTAULIC CO., LTD.**, another associated company, exhibits a full range of "Victaulic" flexible joints, couplings, flange adapters, etc. Recent developments for standard Victaulic joints include a higher range of pressures. Joints up to 4-in. nominal bore are designed for 600-lb. working pressure.

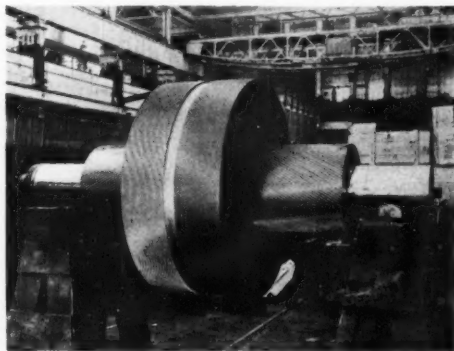
HALE & HALE (TIPTON), LTD. (Stand near Entrance D).—Many castings of interest to the shipbuilding industry are displayed here. They include fittings for almost every type of vessel, ranging from fairleads, bobbins and deck haulage gear for trawlers to porthole doors, deadlights and frames, mitre wheels and brackets for merchant ships and warships. Also exhibited is the Hewitt patent wedge release, originally designed for mining operations, but specially adapted at the suggestion of a Glasgow shipbuilder for use in ship launching. This release is now in use in several Clyde shipyards.

HOLOPLAST, LTD. (Stand B315).—This stand is designed to show specific applications of the firm's products, one of which is the use of 1½-in. "Holoplast" panels as an exterior wall. Holoplast internal partitioning is also shown as a typical office construction. Other products are used for flooring, furniture, doors and acoustic finishes. The laminated plastic corrugated roofing sheet, marketed under the trade name "Corroplast", is also shown.

BAKELITE, LTD. (Stand C404).—This stand demonstrates the many uses of "Bakelite" and "Vybak" plastics. Much of the insulation in a ship's electrical equipment consists of mouldings from Bakelite moulding materials or of components fabricated from Bakelite laminated. Wires and cables are insulated and sheathed with Vybak thermoplastic compounds, and ships' hulls are coated with pretreatment primers based on "Vinylite" polyvinyl butyral resins. Bakelite resins are the basis for many marine paints. The furniture on the stand incorporates "Warerite" laminated plastics manufactured by **WARERITE, LTD.** These materials are extensively employed for surfacing walls and furniture in the crews' quarters of ships because of their hard wearing properties. Patterns and colours are an integral part of a Warerite panel or veneered board.

L.C.I., LTD., LEATHERCLOTH DIVISION (Stand P64).—This stand takes the form of an open lounge. The upholstery and panelling exemplifies the use of "Hexine" (nitrocellulose-coated fabric) and "Vynide" (polyvinyl chloride-coated fabric). A display of products features travel goods in new colours and designs.

CHLORIDE BATTERIES, LTD. (Stand C301).—Against a background illustration of the Festival of Britain South Bank site, a large scale cut-out map of Great Britain and a series of photographs tells the story of the company's nation-wide participation in all the principal sections of the Festival. The map—14 ft. in length—shows the main centres of the Festival in England and Scotland, the route of the Land



BTH double-helical gearwheel of 65-in. diameter, the intermediate wheel for a double-reduction ship-propulsion drive

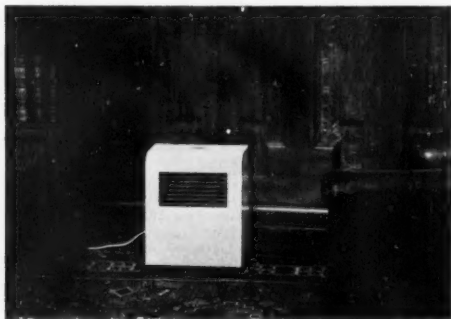
Traffic Exhibition and the course of the Festival Ship *Campania*. A typical battery and equipment is wired up and in operation on the stand.

TUDOR ACCUMULATOR CO., LTD. (Stand C114).—An entirely new dual battery automatic equipment evolved by the company's engineers primarily for the operation of pit-shaft signalling devices in collieries is featured. The apparatus is the first on the market to incorporate charge and automatic battery changeover features. Also shown is a crate of cells of the type used for emergency lighting and other duties on board ship.

KEITH BLACKMAN, LTD. (Stand D755/654).—"Tornado" fan engineering equipment is featured. Operating exhibits include a dust-collecting unit designed to meet the demand for self-contained apparatus for application to general grinding and light polishing machines. Also exhibited are unit heaters, filters, and a "Weldafume" unit for removing hot fumes and smoke from the vicinity of the operator during welding operations.

HYMATIC ENGINEERING CO., LTD. (Stand D136).—Four examples of the comprehensive series of air hammers produced by this firm are shown. They are the PH107, 108, 113 and 114. The first two are pistol-grip type models, the PH107 consuming 3 c.f.m. of air and delivering up to 6,000 blows per minute, and the PH108, a more powerful version, consuming 6 c.f.m. and delivering 5,000 blows per minute. The PH113 and 114 are heavy-duty types with spade-grip handles designed to reduce operator fatigue when used for long periods. The tools available for use with these hammers include flat, cross-cut and routing chisels, planishers, hammers, metal cutters, scrapers and so on.

E. K. COLE, LTD. (Stand C403).—This firm is showing a range of Thermovent electric space heating appliances,

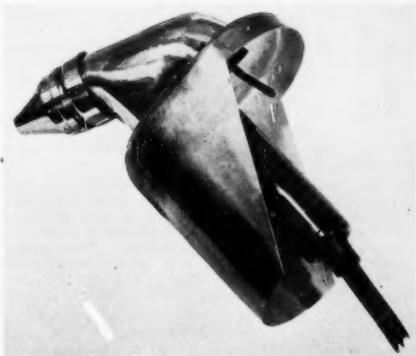


Thermovent type FM portable heater

covering domestic, industrial and marine requirements. Among the range of marine Thermovents is a new model known as the Type FM portable heater, which is being used extensively in the new Orient liner *Oronsay*, now being completed at Barrow. In this, a safety device automatically switches off the supply should the heater be inadvertently knocked over or the heat outlet obstructed. Thermotubes on show include a new range of industrial waterproof units in single, double and triple banks. On the Plastics Federation stand (X13-17) at Earls Court, the firm is showing a variety of plastic mouldings for many industries.

ROCKWELL, LTD. (Stand D537).—Important new items in this firm's range of electrodes, welding plant and accessories are shown. They include the six types of "Chromac" electrodes which have been developed for the welding of stainless and heat-resisting steels. The "Silvac" mild steel electrode is exceptionally easy on downhand welding and has many applications in fabrication in plate thicknesses up to $\frac{1}{4}$ in. and for deep-groove welding in thick plate. The "Vitrac" electrode has a high rate of deposition and is primarily used for long runs. The new "Oxyarc" gunholder, all-insulated and metal clad, is shown (as illustrated). The oxygen hose and electric cable are combined in one lead, and a chuck type of electrode grip gives quick and positive engagement.

METALLISATION, LTD. (Stand 1246/1347).—This firm claims to be the first in the field with automatic metal spraying and is showing a fully automatic metal spraying machine capable of spraying 10,000 ft. of steel tubing per day with zinc or aluminium. Exterior coatings of 0.004-in. thickness are deposited under controlled conditions.

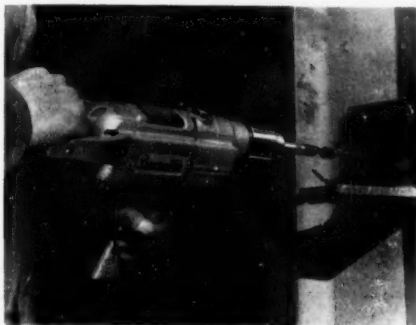


New "Oxyarc" gun holder by Rockwell, Ltd.

ROZALEX, LTD. (Stand D706).—This firm displays its barrier preparation against dermatitis, and the Rex dispenser, designed to ensure that the worker receives a controlled and uncontaminated supply when required, is displayed.

G. A. HARVEY & CO. (LONDON), LTD. (Stand B329).—During the past few years this company has added considerably to its facilities for the fabrication of steel plate. The range of "Harco" perforated metals exhibited is particularly interesting. Slots $1\frac{1}{2}$ in. by $\frac{3}{8}$ in. wide, punched through mild steel $\frac{3}{8}$ in. thick, to round holes 0.015 in. diameter, prove that the technical difficulties presented are no barrier to the craftsmen at Greenwich Metal Works. "Harco" woven wire cloth is displayed in a variety of metals in all meshes and gauges. Wirework is displayed in products suitable for domestic and industrial needs, among which are machinery guards, window guards, partitioning, cloakroom fittings and clothes lockers. A range of "Harco" steel equipment will also be found on this stand, and will interest those who are seeking efficient methods of filing and store-keeping. Steel desks and tables, filing cabinets, storage bins and racks are only a few of the items produced. An important feature is that it is possible for this equipment to be exported in a "knocked-down" condition, thus showing a considerable saving in shipping charges.

BRITISH THOMSON-HOUSTON CO., LTD. (Stand C311/410).—This firm's exhibits range from a 12-ton 10-ft. diameter helical gearwheel for marine propulsion to a high-speed electronic counter. The gearwheel was cut in the BTH gear-wheel factory, which is specially equipped for the production of high-accuracy gearwheels of all sizes. Facilities are available for the manufacture of complete gearboxes. There is also a wide range of fractional horsepower motors and geared motor units. Typical examples of BTH control gear are exhibited and there is a working display of the "Starcreep" hoist control, which is a recent development for obtaining stable creeping speeds with A.C. motor drives. A new line of Type KN industrial electric motors is introduced. These



New Desoutter two-speed electric drill

are totally enclosed squirrel-cage induction machines and built to the new British Standards with regard to size, etc. Photographs and a gas turbine rotor illustrate the company's products in this field.

DESOUTTER BROS. LTD. (Stand B415).—A new two-speed portable electric drill is displayed on this stand. It is a general-purpose tool capable of heavy duty work and is available for drilling $\frac{1}{8}$ -in. or $\frac{1}{4}$ -in. holes. The complete tool weighs little more than 9 lb. It has a motor of 0.35 h.p. giving speeds of 540 and 1,240 r.p.m.

THE AEROGRAPH CO. LTD. (Stand D302).—The DeVilbiss Aerograph spray finishing equipment is again exhibited, as well as a range of portable heavy-duty air compressing plants of entirely new design, incorporating a vibrationless chassis mounted on rubber-tyred wheels. Other items of spray painting equipment on view include pressure feed tanks, exhaust fans, air transformers, automatic sprays and spray guns for special purposes.

RAWPLUG CO., LTD. (Stand C707).—The well known range of Rawplug fixing devices and tools is displayed, as well as the new "Durium" drill which is claimed to have revolutionised hole-boring in masonry. One of the newer Rawplug devices which is used for making strong fixings in thin and hollow materials is the Rawnut. This is a rubber plug in which is bonded a tapped nut. Placed in a hole in the material, the action of turning the screw causes the rubber to expand and form a rivet at the back of the material.

PORT OF LONDON AUTHORITY (Stand B617/514).—Perhaps the most popular feature of this display is the 22 ft. 6 in. model of the River Thames and Docks, which has travelled all over the world. The 150 model ships have been renewed so that the most modern liners using the port are represented, as well as recent dock developments and the Festival site. Prominent on the stand is a large electrically operated model which shows the principal shipping routes used by explorers. Electrical impulses illuminate the routes and coloured transparencies show the principal exports and imports.

I.C.I., LTD., METALS DIVISION (Stand D409/308).—The principal wrought metal products of the Division—strip, sheet, plate, tubes, rods, sections and wire in copper and its alloys and aluminium and its alloys—are exhibited in small display units of massed metal. Illustrating the activities of the Research Department is a small team at work determining the stresses set up in various non-ferrous wrought metals, during and after welding, the object then being to adjust welding practice so that welds with the minimum amount of stress are produced. Demonstrating the constant interest of the Division in solving problems of corrosion and erosion in condenser tubes, the stand contains a typical circulation test apparatus of the type in day-to-day use in the Division. A new product—"Kynal" aluminium alloy tread-plate—is used on the stand.

Carpet Cleaning at Sea

To keep the carpets clean in ocean-going liners, more and more well-known shipping companies are turning to the use of Hoover cleaners. For example, the French Line recently equipped the *Liberté* with some 70 Hoover cleaners, while the *Queen Elizabeth* and other Cunard liners are also Hoover cleaned. So too are liners of the Holland-America line and those of many other shipping companies, both British and foreign. The New Zealand Shipping Company has bought 56 Hoover washing machines for washing crew's overalls and other clothing in their cargo ships, and other shipping companies have also found the advantage of this quick and cheap method of meeting the ocean washing problem for their crews.

Clocks in the "Ocean Monarch"

The electric clock system in the *Ocean Monarch* has been supplied by Thomas Mercer, Ltd. There are 65 clocks in this installation, controlled by an electrically wound master chronometer, running on 24 volts battery supply. Bronze and silver bronze have been chosen as the colour scheme. Nine of the clocks are of the double dial type with internal illumination, four of which are watertight. The clock in the smoke room is of semi-circular design with a radius of 9½ in. It is fitted with yellow bronze bezel, matt silver dial, yellow bronze stroke chapters and applied fleur de lys in matt silver.

ROUND THE SHIPYARDS

Work in Progress in Northern Ireland

By THE SHIPPING WORLD'S Own Correspondent

SINCE the last report from Belfast appeared in THE SHIPPING WORLD orders for eleven more ships for Harland & Wolff, Ltd., have been announced, so that with all the 18 building berths occupied there is a known reserve of 15 vessels yet to be laid down. The latest list of contracts is headed by that from the Union-Castle Mail Steamship Co., Ltd., for a repeat of the intermediate steamship *Rhodesia Castle* (17,300 tons), launched on April 5, and of the *Kenya Castle*, due to be launched in June. The keel of the new ship was laid in the berth in the Musgrave yard vacated by the *Rhodesia Castle*. With the exception of a cargo liner for Elder Dempster Lines, Ltd., all the remaining vessels are oil tankers. The Elder Dempster ship is a repeat of two already building at the Queen's Island. These are motor-driven vessels of 7,500 tons d.w. with accommodation for 12 passengers.

Five of the nine oil tankers are from the big programme of the Anglo-Saxon Petroleum Co., Ltd. They comprise one ship of 28,000 tons d.w., similar to the *Verena*, delivered from Belfast last year, and four of the new general purpose class of 18,000 tons d.w. All will be propelled by steam turbines to be supplied by the builders. In addition, the Anders Jahre group, of Sandefjord, Norway, has placed orders for four tankers of 18,500 tons d.w. each and two of these are already under construction. Tankers on order also include ships of 32,000 tons, 28,000 tons and 14,000 tons d.w. for the British Tanker Co., Ltd., and two of 24,000 tons d.w. for Norway. One of the latter, for Sigurd Herlofsen & Co., Oslo, is nearing the launching stage. Harland & Wolff recently delivered a further tanker of 12,000 tons d.w., the *Orkdal*, to Moltzau & Christensen, Oslo, and they are at present completing the *Dalonn* (28,000 tons d.w.) for Sigval Bergesen, Stavanger.

Keels laid recently have included a passenger and cargo liner for the Coast Lines, Ltd., a motorship of 8,000 tons d.w. for the Lamport & Holt Line, and the second of pairs of ships placed by the Shaw, Savill & Albion Co., Ltd., and the King Line. In the first case the ships are refrigerated cargo liners of 10,000 tons, and in the second motor-driven tramps of 9,300 tons d.w.

The yards are thus fully engaged, although at the moment there is not a large number of ships at the fitting out berths. The *Rhodesia Castle*, however, is providing a good deal of employment for the white trades. The return of the aircraft carrier *Eagle* from her successful trials will also add to the amount of work on hand. The fitting out of the whaling factory ship *Juan Peron*, for the Argentine, is proceeding and the vessel will be completed in time for the next whaling season. Other work embraces the fitting of stabilisers to the Railway Executive motorship *Cambria* and the modernisation of the steamer *Duke of York*. The Ulster Steamship Company's steamer *Fanad Head* has been converted to oil burning in like manner to the *Torr Head* earlier in the year.

PASSENGER MOTORSHIP "BLENHEIM"

(Continued from page 411)

accommodation on the second deck aft is all in two-berth cabins, but the cabins in both classes are similarly fitted so that the vessel may be used, if required, as a one-class ship. Ample promenade space is available for both classes. There is also group accommodation for 36 passengers on the upper deck forward.

The main propelling machinery consists of a new type of two-stroke single-acting crosshead diesel of B. & W. type with exhaust slides, built and installed by the shipbuilders. It has eight cylinders and develops 4,600 h.p. at 135 r.p.m. Electric current is supplied by four diesel-generators, each comprising a 4-cyl. four-stroke trunk diesel coupled to a 125-kW. dynamo. In addition there are a 63-kW. diesel-generator for port use and a 15-kW. emergency generator.

LLOYD'S REGISTER SHIPBUILDING RETURNS

MERCHANT VESSELS UNDER CONSTRUCTION AT END OF MARCH, 1951

THE STATISTICS compiled by Lloyd's Register of Shipping show that vessels under construction in Great Britain and Northern Ireland at the end of March totalled 337 ships, of 2,072,723 tons gross, an increase of 28,085 tons compared with the previous quarter. Of the total, 86 ships of 480,724 tons were fitted out afloat, and 251 of 1,591,999 tons were still to be launched. The total tonnage under construction shows only mild fluctuations since the high figures of 1948, which were inflated by the large amount of tonnage then being fitted out afloat. Work was begun on 56 ships of 316,881 tons during the quarter, while 55 ships of 241,483 tons were launched and 47 ships of 291,173 tons were completed. The total under construction and preparing at the end of March was 540 vessels of 3,487,032 tons gross, compared with 478 vessels of 2,999,174 tons in December.

Tonnage under construction for registration abroad or for sale amounts to 110 ships, of 740,066 tons. This is 54,572 tons less than at the end of December, and represents 35.7 per cent of the total being built in this country. The total includes 34 ships of 347,148 tons for Norway, five of 74,940 tons for Liberia, and four of 38,000 tons for Argentina. Oil tankers of 1,000 tons and upwards under construction totalled 97 ships, of 1,152,323 tons, an increase of 5,950 tons as compared with last quarter. Tankers represent 55.6 per cent of the total tonnage under construction in this country. At the end of March, plans had been approved or material ordered for 212 ships not yet commenced, of 1,414,309 tons. Of this tonnage, 66 per cent are oil tankers.

Steamers and motorships under construction abroad totalled 880 ships of 3,024,361 tons gross, an increase of

250,296 tons compared with December last. The leading countries abroad, showing also tonnage fluctuations as compared with the previous quarter, are as follows:—

France ...	485,888 tons (+28,475)	U.S.A. ...	270,284 tons (+69,911)
Japan ...	479,610 —	Germany ...	261,285 — (+163,775)
Italy ...	322,358 — (+1,380)	Norway ...	142,800 — (+19,166)
Sweden ...	302,035 — (+2,955)	Denmark ...	123,262 — (+10,820)
Holland ...	295,790 — (+11,004)	Spain ...	102,982 — (+2,867)

Of the tonnage being built abroad, 600,003 tons (22.8 per cent) are intended for registration elsewhere than in the country of build or for sale, including 188,662 tons for Norway, 95,706 tons for France, and 69,892 tons for Argentina. Oil tankers of 1,000 tons and over under construction abroad totalled 84 ships, of 828,670 tons, which is 47,220 tons more than in December last. They include 22, of 225,735 tons, in Sweden; 17, of 124,790 tons, in Japan; eight, of 103,365 tons, in Holland; five of 77,360 tons in France; five, of 68,000 tons, in Italy; eight, of 54,600 tons, in Norway; and five, of 49,780 tons in Denmark. Oil tankers represent 27.4 per cent of the total tonnage being built abroad.

Registration of Ships Under Construction

For Registration in	Great Britain and N. Ireland		Holland		Sweden	
	No.	Tons Gross	No.	Tons Gross	No.	Tons Gross
Great Britain and N. Ireland	227	1,332,657	—	—	—	—
Other British Commonwealth Countries	19	23,720	4	3,398	—	—
Argentina	4	58,000	4	47,633	1	9,800
Belgium	3	1,800	3	3,700	—	—
Brazil	8	47,768	2	520	2	22,000
Chile	2	7,033	—	—	—	—
Colombia	1	5,500	—	—	—	—
Denmark	—	—	—	—	3	31,685
Egypt	—	—	—	—	—	—
Finland	—	—	2	7,300	—	—
France	3	20,150	12	65,226	1	1,100
Germany	—	—	—	—	—	—
Greece	—	—	—	—	—	—
Holland	4	25,550	74	88,321	—	—
Honduras	—	—	—	—	—	—
Iceland	6	4,247	—	—	1	1,000
Indonesia	—	—	—	—	—	—
Irish Republic	1	850	2	4,460	—	—
Israel	—	—	—	—	—	—
Italy	—	—	—	—	—	—
Japan	—	—	5	74,940	—	—
Liberia	—	—	34	347,148	4	43,732
Norway	34	45,990	—	—	10	118,400
Panama	4	—	—	—	—	—
Paraguay	—	—	—	—	—	—
Peru	2	760	—	—	—	—
Philippines	—	—	—	—	—	—
Poland	2	15,200	—	—	3	480
Portugal	2	9,500	—	—	—	—
Russia	—	—	3	3,000	23	17,150
Spain	—	—	—	—	—	—
Sweden	3	27,410	2	19,400	23	100,420
Switzerland	—	—	—	—	—	—
Thailand	—	—	—	—	—	—
Turkey	—	—	2	300	—	—
United States of America	1	4,950	—	—	—	—
Uruguay	—	—	1	5,790	—	—
Venezuela	1	5,500	—	—	—	—
Yugoslavia	3	13,000	1	300	—	—
Country not stated	—	—	—	—	—	—
Total under construction	337	2,072,723	120	295,790	67	302,035
For registration in country of build	227	1,332,657	74	88,321	23	100,420
For registration in other countries	110	740,066	46	207,469	44	201,615

Ships Commenced, Launched and Completed during the Quarter

Country of Build	Commenced		Launched		Completed	
	No.	Tons Gross	No.	Tons Gross	No.	Tons Gross
Great Britain and Northern Ireland	56	316,881	55	241,483	47	291,173
Other British Commonwealth Countries	7	7,150	8	25,734	5	10,881
Belgium	—	—	2	12,768	3	23,350
Denmark	3	12,250	2	11,950	5	25,650
Finland	3	5,420	3	1,670	1	500
France	10	46,812	13	37,609	7	21,461
Germany	41	98,097	38	59,503	32	43,830
Holland	41	52,315	25	62,260	30	56,582
Indonesia	1	146	1	153	1	153
Italy	7	32,725	3	30,100	6	23,925
Japan	23	124,640	16	44,540	33	149,680
Norway	7	24,570	11	30,226	11	6,396
Portugal	1	1,250	1	3,227	—	—
Spain	2	860	7	8,875	11	3,831
Sweden	11	59,680	13	79,368	13	44,577
U.S. of America	16	28,378	14	29,989	13	99,050
World Total	229	811,174	212	679,455	218	821,039

Merchant Ships Under Construction in the World

(Excluding Ships of less than 100 tons gross)

Country of Build	Steamers		Motorships		Total*	
	No.	Tons Gross	No.	Tons Gross	No.	Tons Gross
British Commonwealth	—	—	—	—	—	—
Great Britain & N. Ireland	114	647,087	223	1,425,636	337	2,072,723
Australia	—	—	3	16,300	—	—
Canada	5	45,881	8	3,472	—	—
Other Commonwealth Countries	4	15,770	4	1,140	—	—
Belgium	2	27,868	11	37,510	13	65,378
Denmark	2	4,365	23	117,897	25	122,262
Finland	14	13,636	5	10,804	19	24,440
France	17	144,560	79	341,328	96	485,888
Germany	7	7,383	113	253,902	120	261,285
Holland	12	34,658	108	261,132	120	295,790
Indonesia	—	—	1	146	—	—
Irish Republic	1	1,100	—	—	1	1,100
Italy	4	30,500	59	291,858	63	322,358
Japan	20	155,695	76	323,915	105	479,610
Norway	18	23,214	42	119,586	60	142,800
Portugal	—	—	11	15,543	11	15,543
Spain	21	26,712	62	76,270	83	102,982
Sweden	23	14,480	44	287,555	67	302,035
U.S. of America	—	—	—	—	—	—
Atlantic Coast	9	149,700	13	4,554	—	—
Gulf Ports	2	8,800	3	600	—	—
Pacific Coast	—	—	—	—	48	270,284
Great Lakes	10	97,600	12	9,030	—	—
Uruguay	—	—	9	3,624	9	3,624
Yugoslavia	—	—	5	12,600	5	12,600
World total	301	1,482,682	916	3,614,402	1,217	5,097,084

* In Great Britain and Northern Ireland there are under construction 59 non-propelled craft, of 12,046 tons, which are not included in the above figures. Non-propelled craft under construction abroad are not included in these returns.

The above totals include 45 ships of 39,042 tons (eight steamers of 18,185 tons, and 37 motorships of 20,857 tons) on which work has been suspended. Of these, three motorships of 850 tons are under construction in Great Britain and Northern Ireland.

Oil Tankers Under Construction in the World

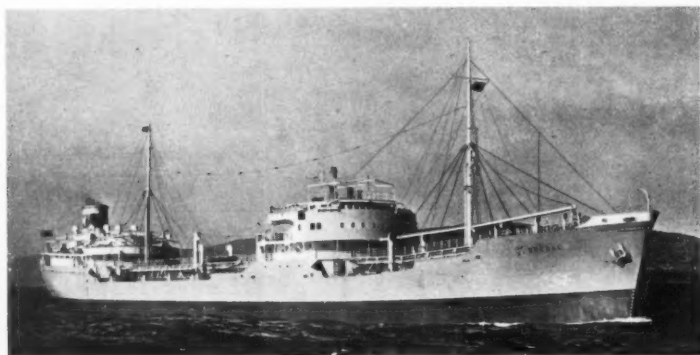
(Excluding those of less than 1,000 tons gross)

Country of Build	Steam		Motor		Total	
	No.	Tons Gross	No.	Tons Gross	No.	Tons Gross
Great Britain and N. Ireland	20	285,750	77	866,573	97	1,152,323
Other Commonwealth Countries	2	24,000	1	2,150	3	26,150
Belgium	—	—	2	22,000	3	32,868
Denmark	—	—	5	49,780	5	49,780
Finland	—	—	1	1,104	1	1,104
France	—	—	5	77,360	5	77,360
Germany	—	—	3	24,950	3	24,950
Holland	—	—	8	103,365	8	103,365
Italy	—	—	5	68,000	5	68,000
Japan	3	36,300	14	88,490	17	124,790
Norway	—	—	8	54,600	8	54,600
Portugal	—	—	1	7,416	1	7,416
Spain	—	—	2	16,452	2	16,452
Sweden	—	—	22	225,735	22	225,735
United States of America	1	16,100	—	—	1	16,100
World Total	27	373,018	154	1,607,975	181	1,980,993



Italian Passenger Liner "Australia"

With the entry into service of the twin-screw motor passenger liner *Australia*, the voyage from Genoa to Australia will be reduced from 28 days to 22 days. The *Australia*, of 13,000 tons gross, has been built by Cantieri Riuniti dell'Adriatico, Trieste, for Soc. per Azioni Lloyd Triestino. She has a speed of 18 knots and her dimensions are 501 ft. length, 69.4 ft. breadth and 28.6 ft. depth. Accommodation is provided for a total of 800 passengers. The propelling machinery has been supplied by the shipbuilders and comprises two 5-cylinder two-stroke single-acting diesel engines.



Norwegian Tanker "Orkdal"

The Belfast yard of Harland & Wolff, Ltd., has completed the single-screw motor tanker *Orkdal* for Moltzau & Christensen, of Oslo. Of about 8,200 tons gross, she has a deadweight of some 12,000 tons. Her principal dimensions are 487 ft. 6 in. length o.a., 460 ft. b.p., 59 ft. breadth moulded and 34 ft. 10 in. depth moulded. She is of normal modern tanker construction, with longitudinal and transverse framing and propelling machinery aft. There are 24 main cargo oil tanks and two main cargo pump rooms. Supplied by the shipbuilders, the main engine is a B. & W. type diesel of the single-acting four-stroke type having six cylinders.



Canadian Ferry "Princess of Nanaimo"

The delivery has taken place by the Fairfield Shipbuilding & Engineering Co., Ltd., of the twin-screw turbine-driven passenger and car ferry *Princess of Nanaimo*. Built for the Canadian Pacific Railway, she is designed for the British Columbian coastal trade. She is of 6,787 tons gross and has an overall length of 358 ft., a length b.p. 337 ft., breadth moulded 62 ft. and a depth to main deck of 19 ft. 9 in. There is accommodation for up to 1,500 day passengers, and garage space is provided for about 150 cars. A service speed of 18½ knots is maintained by a twin-screw set of single-reduction geared turbines built by the shipbuilders. She will enter the Vancouver-Nanaimo service in mid-June.

NEW CONTRACTS

Yards in Great Britain and Northern Ireland

Shipowners	No. of Ships	Type	Approximate Tonnages		Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
			Gross	Deadweight						
Melsom & Melsom, Larvik	1	Tanker	—	18,000	—	—	Doxford diesel	—	Shipbuilders	Barclay, Curle
Rafin & Loennechen, Tonsberg	1	Tanker	—	15,000	—	—	Doxford diesel	—	Shipbuilders	Barclay, Curle
Oslo owners	1	Cargo liner	—	8,500	—	—	Doxford diesel	—	Wallsend Slipway & Eng. Co.	Swan, Hunter & Wigham Richardson, Wallsend
Furness, Withy & Co.	1	Cargo and pass. liner	9,300	10,500	470 b.p. 63.16	15.5	Sin.-red. geared turbine Diesel	7,700	Parsons Marine	Vickers-Armstrongs, Walker
Elder Dempster Lines	1	Cargo liner	—	7,500	—	—	—	—	—	Harland & Wolff, Belfast
Crown Agents for the Colonies	1	Collier	—	4,000	—	11	Tr.-exp. steam	—	Shipbuilders	Hall, Russell
Alfred Holt & Co.	1	Cargo liner	8,000	—	—	16	B. & W. diesel	—	Shipbuilders	Harland & Wolff, Belfast
Alfred Holt & Co.	1	Cargo liner	8,000	—	—	16	Diesel	—	Shipbuilders	Vickers-Armstrongs, Walker
Charente S.S. Co.	2	Cargo	—	10,000 (each)	—	—	4-cyl. diesel	—	Shipbuilders	Wm. Doxford
S. African Rlys. & Harbours Administration	1	Suction dredger	4,000	—	—	—	Tr.-exp. steam	—	—	Wm. Simons & Co.
Klosters Rederi A/S, Oslo	1	Tanker	—	18,000	—	14.75	Kincaid-B. & W. diesel	7,600	—	Smith's Dock
Commonwealth and Foreign Yards										
Halle & Peterson, Oslo	1	Tanker	—	18,000	—	15	Diesel	—	—	Deutsche Werft, Hamburg
Martin Mosvold, Farsund	1	Tanker	—	16,500	—	—	Diesel	—	—	Deutsche Werft
Rethymnis & Kulukundis	1	Tanker	—	24,000	—	—	—	—	—	Netherlands Dock & S.B. Co., Amsterdam
Gustaf Erikson, Mariehamn	1	Cargo	—	4,000	352.33 o.a. and 326.42 b.p. 46.58 - 20.16	14.4	M.A.N. diesel	3,300	—	Werf de Noord, Alblasdendam
Peruvian Govt.	1	Bucket dredger	—	—	—	—	Steam	—	—	Scheeps. en Mach. "Holland," Hardnevel
Interlake S.S. Co.	2	Hopper barges Ore carrier	12,500	18,000	610 b.p. 37	70	Steam turbine	—	—	Bethlehem Sparrows Point Shipyard, Md.
J. M. Carras, Inc., New York	1	Tanker	—	18,000	—	—	Steam turbine	8,000	—	Hitachi S.B. & E. Co., Inoshima
Shin Nippon Kisen K.K., Kobe	1	Cargo	—	9,500	—	—	Diesel	—	—	Hitachi S.B. & E. Co., Inoshima
Sanko Kisen K.K., Osaka	1	Cargo	—	7,500	—	—	Steam turbine	2,700	—	Hitachi S.B. & E. Co., Sakurajima
Iino Kaiun K.K., Tokyo	1	Cargo	—	9,800	—	—	Steam turbine	6,000	—	Ishikawajima Heavy Industries Co., Tokyo
Flota Mercante Gran-colombiana, Bogota	3	Pass. and cargo	10,000 (each)	—	—	—	—	—	—	Montreal Vickers, Montreal
Sigurd Herlofson & Co.	1	Tanker	—	29,000	643 o.a.	14.5	Diesel	—	—	Gotaverken, Gothenburg
D.S.S. Myren, Copenhagen	1	Cargo	—	8,600	—	—	Diesel	—	—	Nasskov Skibs.
Ove Skou, Copenhagen	1	Cargo	—	6,700	—	15.5	Diesel	—	—	Howaldtswerke, Kiel
Danish owners	2	Cargo	—	9,400 (each)	—	16.5	Diesel	—	—	Howaldtswerke, Kiel
Sig. Bergesen d.y. & Co., Stavanger	2	Tankers	—	29,000 (each)	—	—	B. & W. diesel	—	—	Rosenberg M.V., Stavanger
Schlusel-Reederei D. Oltmann & Co., Morlands Tankrederi A.S., Arendal	4	Cargo	6,000 (each)	10,000 (each)	474 - 60.4 25.8	13.5	Diesel	3,600	—	Flensburger Schiffbau-Ges.
Skibs A/S Truma, Arendal	1	Tanker	—	16,000	—	—	Diesel	—	—	Eriksbergs M.V., Gothenburg
Cia. de Nav. Rio Grande, Panama	1	Cargo	5,800	9,800	433.1 - 60.4 29.4	—	Diesel	4,200	—	Flensburger Schiffbau-Ges.
Navebras S.A., Rio Janeiro	1	Tanker	1,230	1,500	—	—	Diesel	460	—	Uraga Dock Co.

LAUNCHES

Yards in Great Britain and Northern Ireland

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnages		Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
				Gross	Deadweight						
April 10	Esso Pet. Co.	Esso Sussex (672)	River barge	131	—	—	—	—	—	—	Richard Dunston, Hestle
April 12	Clyde Nav. Trustees	No. 8 (3799)	Ferry	35	—	—	—	Diesel	—	—	Hugh McLean & Sons
April 20	Tonsbergs Hvalfangeri A/S	Linde (653)	Tanker	10,800	15,500	510 - 66 - 35.25	—	Doxford diesel	5,500	Shipbuilders	Scotts' S.B.
April 20	Stanhope S.S. Co.	Stanhope (508)	Cargo	6,100	10,250	435 - 58.75 - 29.5	—	4-cyl. Doxford diesel	3,300	N.E. Marine	Short Bros.
April 23	Gdynia-America Shipping Lines	Beskid (333)	Tanker	7,600	11,000	445 b.p. 60.5 - 34	13.5	Sin.-scr. 4-cyl. Doxford diesel	4,250	N.E. Marine	Bartram & Sons
April 23	Admiralty	Eddybeach (474)	Tanker	2,300	—	—	—	—	—	—	Caledon S.B.
April 23	Alexandra Towing Co.	Glodstone (1370)	Tug	230	—	99 b.p. 26.5 - 13	—	Tr.-exp. steam	1,000	Chas. D. Holmes	Cochrane & Sons
April 23	Peruvian Govt.	Maranon (4127)	River gunboat	350 (disp.)	—	154.75 w.l. - 32 - 4 (draught)	12	Tw.-scr. British Polar diesel	800	—	John I. Thornycroft
April 24	British Tanker Co.	British Pioneer (97)	Tanker	8,600	12,500	463 b.p. 61.5 - 34	—	Sin.-scr. 6-cyl. 4-str. B. & W. diesel	3,200	John G. Kincaid	Blythwood S.B.
April 24	Ribble Nav. & Preston Docks Board	Hewitt (412)	Tug	130	—	92 o.a. 23 - 11.5	—	Tw.-scr. 6-cyl. 2-str. diesel	800	Crossley Bros.	Henry Robb
April 24	F. T. Everard & Sons	Speciality	Cargo	1,500	1,830	—	—	Diesel	800	—	Grange-mouth Dockyard

MARITIME NEWS IN BRIEF

From Correspondents at Home and Overseas

ADDITIONAL steel has been allocated to the U.S. ship-building industry for the construction of merchant ships. The steel allocations for June will be 31,000 tons, as against 18,700 tons in May. This allocation allows for the construction of the 25 "Mariner" type cargo vessels, and is also to improve the facilities of some U.S. shipyards. Greater allocations of steel have also been made for building ore carriers for the Great Lakes. The June allocation is for the hulls of 15 specifically named vessels, while the May allocation included steel for the conversion of C4 cargo vessels, sold to Great Lakes operators by the Government last year.

THE DEATH has occurred, at the age of 81, of Sir Arthur C. Cory-Wright, Bt., chairman of Wm. Cory & Son, Ltd., for 36 years, and a member of the Port of London Authority for nearly 30 years. He became chairman of Wm. Cory & Son in 1909, and although he retired from the chairmanship of the board of directors in 1945, he retained his seat on the board until 1948.

A SUBSIDIARY company, Taysteel (Structural Engineers), Ltd., has been formed by the Caledon S. B. & E. Co., Ltd., to handle the growing volume of structural work which the firm is undertaking. The managing director of the new company is Mr. C. H. Lochrie.

PLANS by the Tyne Pilotage Authority to increase its dues are being opposed by the Chamber of Shipping. The Ministry of Transport's decision on the matter is being awaited.

WING-COMMANDER F. A. INSTONE, director and general manager of S. Instone & Co., Ltd., is among those elected to the council of the London Chamber of Commerce.

THE DEATH has occurred of Lord Maclay, the Glasgow shipowner, who was Minister of Shipping from 1916 to 1921. In 1885, he and Mr. T. W. McIntyre established the shipowning firm of Maclay & McIntyre. He was created a baronet in 1914. As Minister of Shipping, he was in control of the industry at a most critical phase of the war. In 1921, he was appointed a member of the Committee on National Expenditure, and in 1922 he was raised to the peerage. His heir, Sir Joseph Maclay, was president of the Chamber of Shipping, 1946-7.

SEVENTEEN employees of Smith's Dock Co., Ltd., North Shields, with a total of 916 years service, have been presented with gold badges in recognition of their long service. The presentations were made at a dinner at Tynemouth by Sir Tristram Edwards, chairman and general managing director of the firm. The employee with the longest service has been with the firm for 61 years.

DAVID BROWN & SONS (HIDDERSFIELD), LTD., have received a repeat order for four marine gear units for installation in twin-engine tankers which William Gray & Co., Ltd., are building at West Hartlepool for British and foreign shipping companies. This contract brings the number of these transmission units so far ordered to seven.

A NEW colour film of the Port of Bristol has been shown to the Amsterdam Ship Owners' Association and the Port of Amsterdam Association through the courtesy of the Holland Steamship Company, which operates a regular weekly service between the two ports.

MR. L. L. ROBERTS, general manager of A. C. Cossor, Ltd., and director and general manager of Cossor Radar, Ltd., has resigned to take up a position with Rootes, Ltd., in connection with their export business.

THE DEATH has occurred, at the age of 49, of Mr. Charles W. Roper, four months after his retirement from the position of U.K. operating manager for United States Lines, due to ill health.

MR. J. L. HOBBS has been appointed commodore chief engineer of Royal Mail Lines, in succession to Mr. H. J. Meader.

THE LINES in the Conference governing the trades from the U.K. and Continent to Colombo have decided, in view of the very serious delays being experienced in the discharge of cargo at Colombo with consequent heavy costs to the shipowners, to impose a surcharge of 25 per cent on outward rates of freight. As soon as normal conditions in the port of Colombo are restored, this surcharge will be removed.

JOHN F. GEHAN, executive vice-president of American Export Lines, Inc., has been nominated for a second term as president and chairman of the board of the Maritime Association of the Port of New York. John McAuliffe, chairman of the board, American Eastern Steamship Corp., will be vice-president and director.

MR. D. MAXWELL BUIST, export director of the British Electrical and Allied Manufacturers' Association (Inc.), has been elected chairman of the Council of the Institute of Export for 1951-52. Mr. J. P. Ford, director and general manager of Associated British Oil Engines (Export), Ltd., has been elected vice-chairman.

THE NUMBER of persons assisted by the Shipwrecked Mariners' Society during 1950 was 3,734, including 1,085 merchant seamen and fishermen, 2,063 widows, 534 orphans and 52 aged parents.

THE PRICES of Admiralty charts have been increased by 33½ per cent, owing to the increased cost of paper and printing. This is the first increase in price since before the war.

THE NEW Marconi marine research yacht *Elettra II* left London on April 29 on her first demonstration cruise to East Coast and Continental ports.

MR. A. W. NICHOLS has been appointed to the board of J. B. Westray & Co., Ltd., to fill the vacancy created by the retirement of Mr. A. V. Leighton.

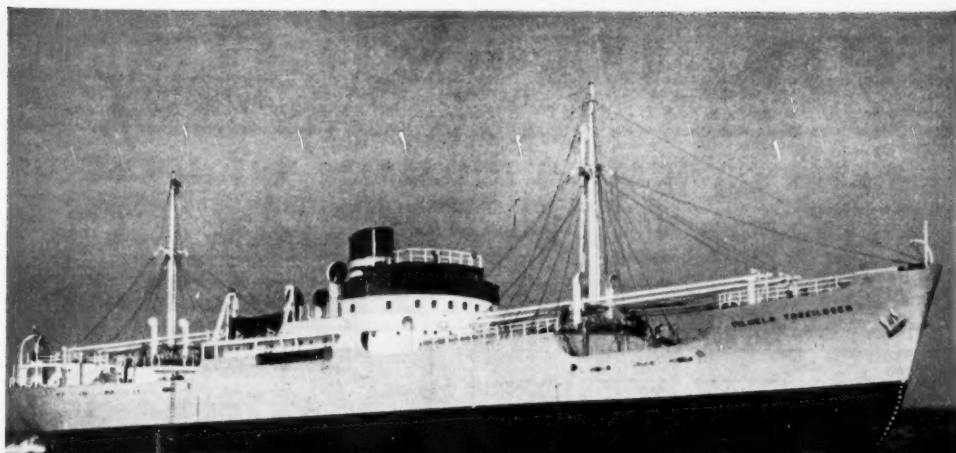
MR. HERBERT S. WEARY has been appointed assistant secretary of The Bank Line, Ltd.



CAPT. J. D. REED has been appointed Executive Officer (Marine), Railway Executive Headquarters. Capt. Reed, after sea service, joined the shore staff of the Great Western Railway's South Wales ports. In 1935 he was appointed in charge of Fishguard Harbour and its cross-channel services. During the war he served as chairman of the Port Emergency Committee in the Fishguard area. In 1945 he became marine superintendent at the G.W.R. marine headquarters. After nationalisation of the railways he was appointed Assistant Chief Officer (Marine) at the Railway Executive

DR. E. C. B. CORLETT is the naval architect of the British Aluminium Co., Ltd., and the author of an investigation into a light alloy superstructure which appeared in THE SHIPPING WORLD of January 10, 1951. Dr. Corlett, who was on the wartime staff of the Directorate of Naval Construction, Admiralty, was jointly awarded the Wakenham Prize of the Institution of Naval Architects in 1947. He was awarded Ph.D. (Dunelm) after research in using structural aluminium in ships. He is an associate member of a number of technical institutes and societies including the Institution of Naval Architects





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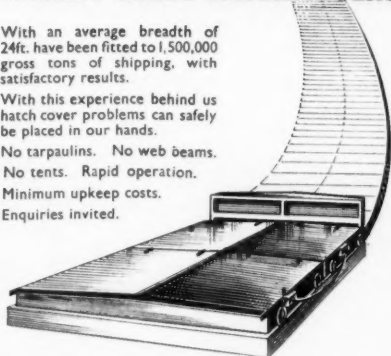
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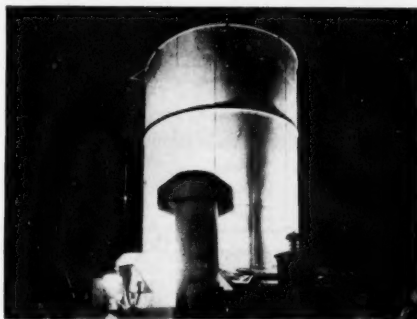


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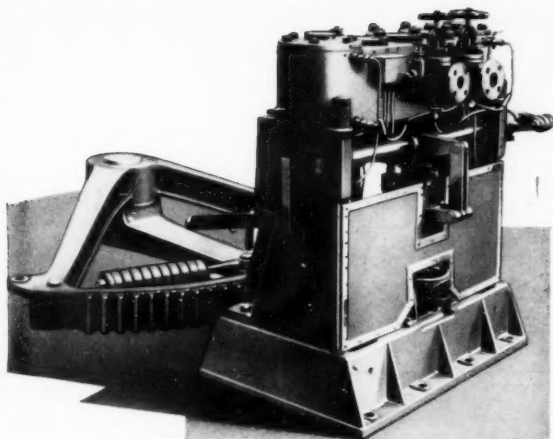
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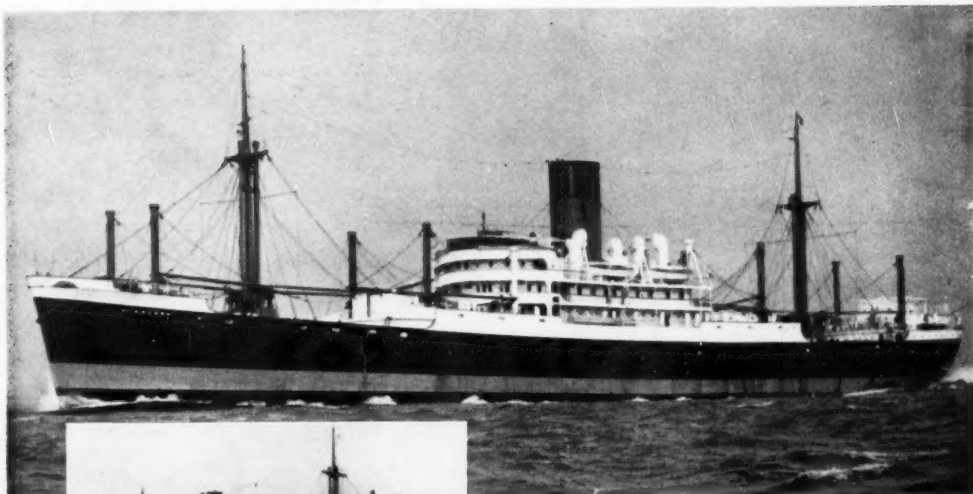
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